Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 01.03.96 Test oil : ISO 4113

Combination No. : 0 403 476 075

Injection pump

Pump designation : PES6MW100/720RS1130

EP type number : 0 413 406 122

Governor

Governer design. : RSV350...750MWOA336

: 4

Governer no. : 0 420 085 160

Cust. part No. :

Customer spec. information
Customer : MB-NFZ
Motor : 0M746A

Motor : OM366A Power KW : 84.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 2.5 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.75 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50 Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: +- 0.75

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.05

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 85.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : + 3.0

Spreed

Tolerance cm3/1000 strokes : 3.5	+ Check tolerance cm3/1000s. : 6.0
Check tolerance cm3/1000s. : 6.0	‡
	+ CONTROL LEVER
Rated speed rpm : 350	control lever position degree : 78.0 tolerance degree : +- 4.0
Rack travel in mm : 6.30 Tolerance mm : +- 0.50 Del. quantity	RATED SPEED
cm3/1000 strokes : 11.0 Tolerance	rack travel mm : 1.00 Tolerance mm : + 0.70
cm3/1000 strokes : +- 2.0 Check tolerance	Rated speed rpm : 850
cm3/1000s. : +- 4.5 Spreed	ASSEMBLY GOVERNOR SETTING
Tolerance	Rated speed rpm : 750
cm3/1000 strokes : 3.5 Check tolerance	rack travel mm : 11.00
cm3/1000s. : 5.5	Rated speed rpm : 779
	Tolerance 1/min : + 4 rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	T rack travet mair . 4.00
WITH GOVERNOR	+
	Rated speed rpm : 751 rack travel mm : 11.00
·	+ rack travel mm : 11.00
GUIDE SLEEVE POSITION	Rated speed rpm : 780
	+ Tolerance 1/min : + 4
control lever	+ rack travel mm : 4.00
position degree : - 3	
Rated speed rpm : 800	Rated speed rpm : 752
Rack travel in mm : 0.65	+ rack travel mm : 11.00
Tolerance mm : - 0.35	Rated speed rpm : 781
	+ Tolerance 1/min : + 4
governor spring	† rack travel mm : 4.00
pre-tension click setting x : 2.80	Ī
ceick occerning A . E.ou	Rated speed rpm : 753
	rack travel mm : 11.00
FULL LOAD DELIVERY AT FULL LOAD STOP	Poted speed nom : 702
Rated speed rpm : 700	+ Rated speed rpm : 782 + Tolerance 1/min : +- 4
Aneroid pressure	
	+ rack travel mm : 4.00
hPs : -	+ rack travel mm : 4.UU
hPs : - Del. quantity	+
hPs : - Del. quantity cm3/1000 strokes : 85.0	Rated speed rpm : 754
hPa : - Del. quantity	Rated speed rpm : 754 rack travel mm : 11.00
hPG : - Del. quantity cm3/1000 strokes : 85.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	Rated speed rpm : 754 rack travel mm : 11.00 Rated speed rpm : 783
hPG : - Del. quantity cm3/1000 strokes : 85.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	Rated speed rpm : 754 rack travel mm : 11.00 Rated speed rpm : 783 Tolerance 1/min : + 4
hPG : - Del. quantity cm3/1000 strokes : 85.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed	Rated speed rpm : 754 rack travel mm : 11.00
hPG : - Del. quantity cm3/1000 strokes : 85.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0	Rated speed rpm : 754 rack travel mm : 11.00 Rated speed rpm : 783 Tolerance 1/min : + 4

rack travel mm : 11.00 Rated speed rpm : 784 Tolerance 1/min : +-4 rack travel mm 4.00 LOW IDLE control lever position degree : 65.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 350 rack travel mm : 6.30 Tolerance mm : +- 0.50 rack travel mm : Rated speed rpm : 2.00 390 Tolerance 1/min : + 30 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm : rack travel mm : 700 12.05 Tolerance mm : + 0.05 Start interlock STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 95.0 Tolerance cm3/1000 strokes : +-5.0 Check tolerance cm3/1000s. : +-8.0 LOW IDLE Rated speed rpm : 350 Del. quantity

Tolerance
cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000s. : + 4.5
Spreed
Tolerance
cm3/1000 strokes : 3.5
Check tolerance
cm3/1000s. : 5.5

End of test specification sheet

cm3/1000 strokes : 11.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 23.04.97

Test oil

: ISO 4113

Combination No. : 0 400 466 096

Injection pump

Pump designation : PES6A75D410/3RS1326

EP type number : 0 410 476 977

Governor

Governer design. : RSV325...1400A8C742L

Governer no.

: 0 420 232 342

Cust. part No. :

Customer-spec. information

Customer

: KHD

Motor

: F6L912

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve

: 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

: +- 1.5

Test lines : 1 680 750 014

Outside diameter :

6.0

x inside diameter: 2.0

BEGINNING OF DELIVERY

per values _____

Set equal delivery quant.

x length mm : 600

Test pressure bar : 26.0 Tolerance bar : + 1.0

(A) INJECTION PUMP SETTING VALUES

REMARKS

Firing order : 1-5-3-6-2-

: 4

Phasing

: 0-60-120-180-240 : +- 0.50

Tolerance

Check

tolerance °NW

: +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 11.55 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 59.0

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s.

: +-2.0

Spreed

Tolerance

cm3/1000 strokes :

2.0

Check tolerance

cm3/1000s.

3.5

Rated speed rpm : 325

Rack travel in mm : 8.10

Tolerance mm : + 0.10

A04

Del. quantity	+ tolerance degree : +- 4.0
cm3/1000 strokes : 11.0	+
Tolerance	+ RATED SPEED
cm3/1000 strokes : +- 3.0	+ rack travel mm : 10.50
Check tolerance	+ Rated speed rpm : 1445
cm3/1000s, : +- 4.5	+ Tolerance 1/min : +- 5
Spreed	+
Tolerance	+ rack travel mm : 4.00
cm3/1000 strokes : 2.0	+ Rated speed rpm : 1485
Check tolerance	+ Tolerance 1/min : +- 15
cm3/1000s. : 3.0	}
	+ rack travel mm : 0.85
	→ Tolerance mm : +- 0.55
(B) SETTING OF INJECTION PUMP	+ Rated speed rpm : 1600
WITH GOVERNOR	+
	+ rack travel mm : 4.00
	+ Rated speed rpm : 1535
GUIDE SLEEVE TRAVEL	+
	+
Dimension a mm : 1.00	+
	+
	+ LOW IDLE
GUIDE SLEEVE POSITION	†
	†
	+ control lever
control lever	+ position degree : 17.0
position degree : - 3	tolerance degree : +- 4.0
Rated speed rpm : 800	†
	+ Setting point w/out bumper spring
Rack travel in mm: 0.50	725
Tolerance mm : +- 0.20	+ Rated speed rpm : 325
•	+ rack travel mm : 8.60
governor spring	† Tolerance mm : + 0.10
pre-tension	†
click setting x : 4.00	† Testing:
	Rated speed rpm : 325
FULL LOAD DELIVERY AT FULL LOAD STOP	+ Rated speed rpm : 325 + rack travel mm : 8.10
LATE FOUND DEFTACKL WE LATE FOWD 2105	+ Tolerance mm : + 0.10
Rated speed rpm : 1400	T roter ance and re-
Rated speed rpm : 1400 Ameroid pressure	Track travel mm : 2.00
	+ Rated speed rpm : 675
hPa : -	Tolerance 1/min : + 30
Del. quantity cm3/1000 strokes : 59.0	T rocerance rounds . , 50
Tolerance	<u> </u>
cm3/1000 strokes : +- 0.5	TORQUE CONTROL
Check tolerance	TOMOL CONTINCE
cm3/1000s. : +- 2.0	Rated speed rpm : 1400
Spreed	rack travel mm : 11.55
Tolerance	Tolerance mm : + 0.05
cm3/1000 strokes : 2.0	+
Check tolerance	Rated speed rpm : 500
cm3/1000s. : 3.5	rack travel mm : 12.55
URD/ 10000	Tolerance mm : +- 0.05
	1050.01100.1111
	Rated speed rpm : 800
CONTROL LEVER	+ rack travel mm : 12.20
Adition prints	+ Tolerance mm : + 0.10
control lever	1
position degree : 65.0	
	•

Start interlock

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 008 Rated speed rpm :

Del. quantity cm3/1000 strokes : 52.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 2.5

STARTING FUEL DELIVERY

Rated speed rpm : 100

LOW IDLE

Rated speed rpm : 325

Del. quantity

cm3/1000 strokes : 11.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance cm3/1000s. : +- 4.5

Spreed

Tolerance cm3/1000 strokes : 2.0

Check tolerance

cm3/1000s.3.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 21.04.97

Test oil

Combination No. : 9 400 030 707FS

Injection pump Pump designation : EP type number

Governor

Governer design. : RQV400...1250AB1320R

Governer no.

: F 002 A30 000

Cust. part No. : TATA-CUMMINS

Customer-spec. information Customer : CUMMINS

Motor

: 6BT - 145 BHP

TEST BENCH REQUIREMENTS

Inlet line : 3.2;

Test oil inlet

temp. °C Tolerance °C 2.0

: 9 451 037 430 Overflow valve

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

bar 173.5 : +- 1.5 Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 3.10 : +- 0.05 Tolerance mm

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 4

Phasina : 0-60-120-180-240

Start of delivery blocking

*NW after s.o.d. : 6.00 Tolerance : + - 0.10

Check

tolerance "NW : +- 0.29

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm: 12.20

Tolerance mm : + 0.05

Rack travel in mm: 8.45 Tolerance mm: +- 0.10 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 1347 guide sleeve travel mm: 8.48 Tolerance mm: +- 0.15 Rated speed rpm: 400 guide sleeve	tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.20 Rated speed rpm : 1325 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1455 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1525
travel mm : 1.71 Tolerance mm : + 0.20	LOW IDLE
Rated speed rpm : 880 guide sleeve travel mm : 4.97 Tolerance mm : + 0.25 Rated speed rpm : 499	control lever position degree : 20.0 tolerance degree : + 4.0 Testing:
Rated speed rpm : 499 guide sleeve travel mm : 2.75 Tolerance mm : + 0.25	Rated speed rpm : 400 rack travel mm : 8.45 Tolerance mm : + 0.10
Rated speed rpm : 549 guide sleeve travel mm : 3.30 Tolerance mm : + 0.25 Rated speed rpm : 560 guide sleeve travel mm : 3.37	rack travel mm : 2.00 Rated speed rpm : 760 Tolerance 1/min : + 30 Rated speed rpm : 100 CRT mm min. : > 9.00
travel mm : 3.37 Tolerance mm : + 0.25	TORQUE CONTROL
Rated speed rpm : 1620 guide sleeve cravel min : 11.50 Tolerance mm : + 0.50	Rated speed rpm : 750 rack travel mm : 12.20 Tolerance mm : + 0.05
GUIDE SLEEVE POSITION	Rated speed rpm : 1250
Rated speed rpm : 1250 Rack travel in mm : 16.00 Tolerance mm : + 1.30	ANEROID/ALTITUDE COMPENSATOR TEST SETTING
CONTROL LEVER	Rated speed rpm : 550 Pressure hPa : 750 Tolerance mm : +- 0.05
control lever + position degree : 63.0 +	Pressure hPa : -

Rated speed rpm : 550 rack travel mm : 11.25 Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 550

Pressure hPa : 445
rack travel mm : 11.95
Tolerance mm : + 0.20

Pressure hPa : 390 rack travel mm : 11.60 Tolerance mm : + 0.20

Start interlock

Rated speed rpm : > 120 Rated speed rpm : < 300

Check

speed 1/min : > 100

Check

speed 1/min : < 340

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 15.50 Toterance mm : +- 0.50

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 22.04.97 : ISO 4113

Combination No. : F 002 A0Z 056

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1100A0C935R

Governer no. : F 002 A20 240

Cust. part No. : DEP: 328 3856

Customer-spec. information Customer : CUMMINS

Motor

: 6BT - 148 HP

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

Start of delivery blocking

*NW after s.o.d. : 7.00 : +- 0.10 Tolerance

Check

tolerance °NW : ~ 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.80 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 106.5

Tolerance	+ Tolerance
cm3/1000 strokes : +- 1.0	+ cm3/1000 strokes : +- 1.0
	+ Check tolerance
Check tolerance	+ cm3/1000s. : +- 3.0
cm3/1000s. : +- 3.0	Spreed
· 5.0	Tolerance
Conned	1
Spreed	+ cm3/1000 strokes : 4.0
	+ Check tolerance
Tolerance	+ cm3/1000s. : 6.5
cm3/1000 strokes : 4.0	†
	†
Check tolerance	
cm3/1000s. : 6.5	+ CONTROL LEVER
	+
	+ control lever
	+ position degree : 103.0
Rated speed rpm : 475	+ tolerance degree : +- 4.0
	+
Rack travel in mm : 5.40	+ RATED SPEED
Tolerance mm : + 0.10	+ rack travel mm : 11.80
Del. quantity	+ Rated speed rpm : 1150
cm3/1000 strokes : 15.0	Tolerance 1/min : +- 5
Tolerance	The second contract of
cm3/1000 strokes : +- 2.0	rack travel mm : 4.00
Check tolerance	Rated speed rpm : 1250
cm3/1000s. : +- 4.5	
Spreed	† Tolerance 1/min : +- 5
Tolerance	T mode through an 0.05
	- rack travel mm : 0.85
	+ Tolerance mm : +- 0.55
Check tolerance	+ Rated speed rpm : 1370
cm3/1000s. : 8.0	†
	+ rack travel mm : 4.00
	+ Rated speed rpm : 1255
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	+
	+
	+ LOW IDLE
GUIDE SLEEVE POSITION	+
	+
	+ control lever
control lever	position degree : 82.0
position degree : FREE	+ tolerance degree : + 4.0
Rated speed rpm : 800	+
• • •	Setting point w/out bumper spring
Rack travel in mm : 0.50	The second of th
Tolerance mm : +- 0.20	Rated speed rpm : 475
The second control of	+ rack travel mm : 4.90
governor spring	Tolerance ma : + 0.10
pre-tension	T (Oter grice int)
click setting x : 5.00	Testing:
cult setting x ; J.00	T resumg:
	T Dated annual (25
CHILL LOAD DELTHERY AT THE LOAD OTCO	+ Rated speed rpm : 475
FULL LOAD DELIVERY AT FULL LOAD STOP	+ rack travel mm : 5.40
.	† Tolerance mm : +- 0.10
Rated speed rpm : 1100	†
Aneroid pressure	+ rack travel mm : 2.00
hPa : 1000	Rated speed rpm : 560
Del. quantity	+ Tolerance 1/min : +- 30
cm3/1000 strokes : 106.5	+

Rated speed rom 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm 1100 rack travel mm 12.80 Tolerance mm : + 0.05Rated speed rpm 008 13.10 rack travel mm Tolerance mm : + 0.20ANEROID/ALTITUDE COMPENSATOR TEST SETTING 500 Rated speed rpm 1000 Pressure hPa Pressure hPa 500 Rated speed rpm 9.80 rack travel mm : + 0.10Tolerance mm **MEASUREMENT** 500 Rated speed rpm Pressure hPa 700 rack travel mm 12.45 Tolerance mm : + 0.20Pressure hPa 560 11.95 rack travel mm Tolerance mm : + 0.20Start interlock FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1000 hPa 800 Rated speed rpm Del. quantity 111.4 cm3/1000 strokes : Tolerance cm3/1000 strokes : +-2.0

500 Rated speed rpm Del. quantity cm3/1000 strokes : 70.5 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 3.0 STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 20.25 Tolerance mm : **←** 0.75 Del. quantity cm3/1000 strokes : 120.5 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : + 15.0LOW IDLE Rated speed rpm 475 Del. quantity cm3/1000 strokes : 15.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Sproed Tolerance 6.0 cm3/1000 strokes : Check tolerance cm3/1000s. 8.0

End of test specification sheet

Check tolerance

cm3/1000s.: +-4.0

Aneroid pressure

hPa

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 18.04.97 Edition Test oil : ISO 4113

Combination No. : 0 402 034 700

Injection pump

Pump designation: PES4P120B120RS3379

EP type number : 0 412 024 702

Governor

Governer design. : RQV475...1100PA1314K

Governer no. : 0 421 815 543

Cust. part No. : 3928601

Customer-spec information Customer : CDC Motor : 4BTA-A Power KW : 93.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C 2.0

: 2 417 413 093 Overflow valve

Inlet press. bar : Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 bar Tolerance bar

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

3.60 Prestroke mm : + 0.05Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing Tolerance : **←** 0.30

Check

tolerance °NW : +- 0.75

Start of delivery blocking

°NW after s.o.d. : 6.00 Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 11.55

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 142.0

	- Rated speed rpm : 1660
Tolerance	- Mateu Speed (piii . 1666 - guide sleeve
cm3/1000 strokes : +- 1.0	- travel mm : 13.50
	Tolerance mm : +- 0.50
Check tolerance	-
cm3/1000s. : +- 4.0	- FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed	F FOLL LOAD DELIVERY AT FULL LOAD STOP
-	- Rated speed rpm : 1100
Tolerance	- Aneroid pressure
cm3/1000 strokes : 8.0 -	hPa : 1200
Check tolerance	- Del. quantity - cm3/1000 strokes : 142.0
cm3/1000s. : 12.0	Tolerance
	- cm3/1000 strokes : +- 1.0
	Check tolerance
Rated speed rpm : 475	- cm3/1000s. : +- 4.0
Rated speed rpm : 475	- Spreed - Tolerance
Rack travel in mm : 6.10	cm3/1000 strokes : 8.0
Tolerance mm : + 0.10	- Check tolerance
Del. quantity	- cm3/1000s. : 12.0
cm3/1000 strokes : 31.0	
cm3/1000 strokes : +- 3.0	
Check tolerance	- CONTROL LEVER
cm3/1000s. : ← 5.0	-
Spreed	control lever
Tolerance - cm3/1000 strokes : 4.0 -	- position degree : 111.0 - tolerance degree : +- 4.0
Check tolerance	- toterance degree : +- 4.0
cm3/1000s. : 8.0	RATED SPEED
+	rack travel mm : 10.50
(B) SETTING OF INJECTION PUMP	- Rated speed rpm : 1155 - Tolerance 1/min : +- 15
WITH GOVERNOR	- Tolerance 1/min : +- 15
W1111 GOVERNOR	rack travel mm : 6.60
	- Rated speed rpm : 1230
GUIDE SLEEVE TRAVEL	Tolerance 1/min : +- 5
Rated speed rpm : 1163	rack travel mm : 0.50
guide sleeve	- Tolerance mm : +- 0.50
travel mm : 7.66	Rated speed rpm : 1350
Tolerance mm : + 0.15	
Rated speed rpm : 475	
Rated speed rpm : 475 - guide sleeve	
travel mm : 1.59	LOW IDLE
Tolerance mm : +- 0.20 -	-
Batad award was a 074	
Rated speed rpm : 931 - guide sleeve -	- control lever - position degree : 70.0
travel mm : 5.89	- tolerance degree : +- 4.0
Tolerance mm : +- 0.25	-
	Control lever difference
Rated speed rpm : 670	- Grad : 43.0
guide sleeve travel mm : 3.53	tolerance degree : +- 6.0
Tolerance mm : + 0.25	- - Testing:
1	,

Rated speed rpm rack travel mm Tolerance mm	: 475 : 6.10 : + 0.10	+ Check + speed 1/min : < 425
Rated speed rpm	: 400	FUEL DELIVERY CHARACTERISTICS
CRT mm min.	: > 7.60	Aneroid pressure hPa : 1200
Rated speed rpm	: 550	Rated speed rpm : 750 Del. quantity
TORQUE CONTROL		
Rated speed rpm	: 1100	cm3/1000 strokes : +- 3.0 + Check tolerance + cm3/1000s. : +- 6.0
rack travel mm Tolerance mm	: + 0.05	+ Spreed + Tolerance
Rated speed rpm rack travel mm Tolerance mm	: 750 : 11.40	cm3/1000 strokes : 8.0 Check tolerance
		+ cm3/1000s. : 12.0
Rated speed rpm rack travel mm Tolerance mm	: 550 : 11.00 : +- 0.20	Aneroid pressure hPa : - Rated speed rpm : 1100
-		+ Del. quantity
ANEROID/ALTITUDE COMPENSATOR TEST		+ Tolerance + cm3/1000 strokes : +- 1.0 + Check tolerance
SETTING		+ Check tolerance + cm3/1000s. : +- 3.0
Petad cheed rom	: 1100	<u> </u>
Rated speed rpm Pressure hPa	1200	STARTING FUEL DELIVERY
Pressure hPa Rated speed rpm rack travel ma Tolerance mm	: 9.60	Rated speed rpm : 100 rack travel mm : 21.00 Tolerance mm : - 0.50 Del. quantity cm3/1000 strokes : 169.0 Tolerance
Rated speed rpm		cm3/1000 strokes : +- 20.0 + Check tolerance + cm3/1000s. : +- 25.0
Pressure hPa rack travel mm Tolerance mm	: 765 : 11.00 : ← 0.20	cm3/1000s. : +- 25.0
Pressure hPa rack travel mm Tolerance mm	: 600 : 10.00	LOW IDLE Rated speed rpm : 475
Start interlock		Del. quantity cm3/1000 strokes : 31.0
Rated speed rpm Rated speed rpm		+ Tolerance + cm3/1000 strokes : +- 3.0 + Check tolerance
Check speed 1/min		cm3/1000s. : + 5.0 + Spreed + Tolerance
speed minn	00	+ cm3/1000 strokes : 4.0

cm3/1000s.	:	8.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 23.04.97 Edition : ISO 4113 Test oil

Combination No. : 9 400 030 739

Injection pump

Pump designation: PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1250A0C852R

Governer no. : 9 420 034 718

Cust. part No. : 3929403

Customer spec. information Customer : CDC : 6BT Motor : 114.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85 : +- 0.05 Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Start of delivery blocking

"NW after s.o.d. : 7.00 : +- 0.50Tolerance

Check

tolerance *NW : + 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.75 Tolerance mm : \leftarrow 0.05

A17

Del. quantity +	Tolerance
cm3/1000 strokes : 102.0	cm3/1000 strokes : +- 1.0
1	Check tolerance
Tolerance	cm3/1000s. : +- 3.0
cm3/1000 strokes : +- 1.0	Spreed
	Tolerance
Check tolerance	cm3/1000 strokes : 3.5
cm3/1000s. : + 3.0	Check tolerance
1	cm3/1000s. : 6.0
Spreed	. 0.0
1	
Tolerance	
cm3/1000 strokes : 3.5	CONTROL LEVER
1	SOMMOE EEVEN
Check tolerance	control lever
cm3/1000s. : 6.0	position degree : 115.0
1	position degree . Tis.u
	RATED SPEED
\perp	rack travel mm : 10.70
Rated speed rpm : 475	Rated speed rpm : 1320
	Tolerance 1/min : +- 5
Rack travel in mm: 5.50	TO COLUMN TO THE
Tolerance mm : + 0.10	rack travel mm : 7.50
Del. quantity	Rated speed rpm : 1365
cm3/1000 strokes : 21.5	Tolerance 1/min : + 5
Tolerance	rocci arice in mini
cm3/1000 strokes : 2.0	rack travel mm : 0.85
Check tolerance	Tolerance mm : + 0.55
cm3/1000s. : + 4.5	Rated speed rpm : 1450
Spreed	nated opeca i piii . 1450
Tolerance	rack travel mm : 7.50
cm3/1000 strokes : 3.5	Rated speed rpm : 1365
Check tolerance	Mateur opece i pri i i 1005
cm3/1000s. : 5.5	
1	
\downarrow	
(B) SETTING OF INJECTION PUMP	LOW IDLE
WITH GOVERNOR +	
1	control lever
	position degree : 87.0
GUIDE SLEEVE POSITION	poortively dogs to
	Control Lever difference
Rated speed rpm : 800	Grad : 28.0
+	tolerance degree : + 4.0
Rack travel in mm: 0.50	
Tolerance mm : + 0.20	Setting point w/out bumper spring
+	
governor spring +	Rated speed rpm : 475
pre-tension +	rack travel mm : 5.00
click setting x : 5.00	Tolerance mm : +- 0.10
+	
	Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 475
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250	•
Rated speed rpm : 1250 + Aneroid pressure +	Rated speed rpm : 475
Rated speed rpm : 1250 +	Rated speed rpm : 475 rack travel mm : 5.50
Rated speed rpm : 1250 Aneroid pressure hPa : 900	Rated speed rpm : 475 rack travel mm : 5.50
Rated speed rpm : 1250 + Aneroid pressure +	Rated speed rpm : 475 rack travel mm : 5.50 Tolerance mm : + 0.10

Tolerance 1/min : +-30 Rated speed rpm 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm 1250 rack travel mm 11.75 Tolerance mm : +- 0.05 Rated speed rpm 800 rack travel mm 11.90 Tolerance mm : +- 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rom 800 Pressure hPa 900 : Pressure hPa 800 Rated speed rpm rack travel mm 11.00 Tolerance mm : +- 0.20 MEASUREMENT Rated speed rpm 800 620 Pressure hPa rack travel mm 11.65 Tolerance mm : +- 0.20 Pressure hPa 565 : rack travel mm 11.30 Tolerance mm : +- 0.05 Start interlock FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 900 Rated speed rpm 800 Del. quantity cm3/1000 strokes : 108.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance

4.0

Aneroid pressure hPa Rated speed rpm 008 Del. quantity cm3/1000 strokes : 97.5 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 3.0 STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 20.50 Tolerance mm : + 0.50Del. quantity cm3/1000 strokes : 120.5 Tolerance cm3/1000 strokes : +- 10.0Check tolerance cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm 475 Del. quantity cm3/1000 strokes : 21.5 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s.5.5

End of test specification sheet

cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 18.04.97 Edition Edition : 18.04.97 Test oil : ISO 4113

Combination No. : 9 400 030 750

Injection pump

Pump designation : PES4A95D32O/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. : RSV475...1050A0C865R

Governer no. : F 002 A20 201

Cust. part No. : 3930156

Customer-spec. information Customer : CDC : 4BT3.9 Motor Power KW : 79.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.45
Tolerance mm : + 0.05 Check tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

: 0-90-180-270 : +- 0.50 Phasing

Tolerance

Check

tolerance $^{\bullet}NW$: \div 0.75

Start of delivery blocking

*NW after s.o.d. : 9.00 Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.30 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 115.0	- Aneroid pressure - hPa : 1200 - Del. quantity
Tolerance	cm3/1000 strokes : 115.0 Tolerance
Check tolerance	- cm3/1000 strokes : +- 1.0 - Check tolerance - cm3/1000s. : +- 3.0
Spreed	- Spreed - Tolerance
Tolerance - 4.0 - 4.0	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 6.5
Check tolerance - cm3/1000S, : 6.5	
	CONTROL LEVER
Rated speed rpm : 475	control lever position degree : 100.5 tolerance degree : +- 4.0
Rack travel in mm : 6.25 - Tolerance mm : + 0.10 -	RATED SPEED
Del. quantity	rack travel mm : 12.30
cm3/1 00 0 strokes : 22.0 - Tolerance -	Rated speed rpm : 1110 Tolerance 1/min : +- 5
cm3/1000 strokes : +- 2.0	
Check tolerance - cm3/1000s. : +- 4.5 -	rack travel mm : 4.00 Rated speed rpm : 1205
Spreed -	Tolerance 1/min : +- 5
Tolerance - cm3/1000 strokes : 6.0 -	rack travel mm : 0.85
Check tolerance	Tolerance mm : +- 0.55
cm3/1000s. : 8.0	Rated speed rpm : 1260
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1210
GUIDE SLEEVE POSITION	LOW IDLE
control lever - specified speed rpm : 800 - speed rpm : 800 - speed rpm : 800 - speed rpm : speed rpm	control lever position degree : 80.0 tolerance degree : +- 4.0
Rack travel in mm : 0.5C - Tolerance mm : + 0.20 -	- Control lever difference - Grad : 20.5
governor spring	tolerance degree : +- 6.0
pre-tension -	Setting point w/out bumper spring
click setting x : 2.50	Rated speed rpm : 475 rack travel mm : 5.75
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
Rated speed rpm : 1050	Testing:

Rated speed rpm	: 475	+ Check tolerance	
rack travel mm	: 6.25	+ cm3/1000s.	: +- 4.0
Tolerance mm		+	
		+ Aneroid pressure	
Rated speed rpm	: 100	+ hPa	: -
•		+ Rated speed rpm	: 800
CRT mm min.	: > 19.00	+ Del. quantity	
		+ cm3/1000 strokes	: 84.0
TORQUE CONTROL		+ cm3/1000 strokes	: ← 1.0
Datad amond num	. 1050	+ Check tolerance + cm3/1000s.	: +- 3.0
Rated speed rpm rack travel mm		T Cm5/10005.	: +- 3.0
Tolerance mm		I	
Ocerance unit	. +- 0.05	<u> </u>	
Rated speed rom	• 750	+ STARTING FUEL DEL	TVFRY
Rated speed rpm rack travel mm Tolerance mm	: 14.30	-	20271
Tolerance mm	: +- 0.10	+ Rated speed rpm	: 100
		+ rack travel mm	: 100 : 20.50
		rack travel mm Tolerance mm	: +- 0.50
ANEROID/ALTITUDE		+ Del. quantity	
COMPENSATOR TEST		+ cm3/1000 strokes	: 121.5
		+ Tolerance	
		+ cm3/1000 strokes	: +- 10.0
SETTING		+ Check tolerance	
		+ cm3/1000s.	: +- 15.0
Rated speed rpm Pressure hPa	: 008	+	
Pressure hPa	: 1200	+	
		†	
Pressure hPa	: -	+	
Rated speed rpm	: 800	+ LOW IDLE	
rack travel mm	: 11.00	†	4
Tolerance mm	: +- 0.70	+ Rated speed rpm	: 475
		+ Del. quantity	22.0
MEASUREMENT		cm3/1000 strokes	: 22.0
Datad aroad num	: 800	+ Tolerance + cm3/1000 strokes	: +- 2.0
Rated speed rpm	: 800	Check tolerance	. — 2.0
Pressure hPa	: 650	cm3/1000s.	: +- 4.5
rack travel mm	: 12.65	Spreed	4.5
Tolerance mm	: + 0.20	+ Tolerance	
TO CET GITTE TIME	0.20	cm3/1000 strokes	: 6.0
Pressure hPa	: 550	+ Check tolerance	. 0.0
rack travel mm	: 11.90	+ cm3/1000s.	: 8.0
Tolerance mm	: + 0.20	-	
		+	
Start interlock		+	
		+	
		† <u> </u>	
P(P P	DAATESTATE		fication sheet
FUEL DELIVERY CHA	RACTERISTICS	†	
Aneroid pressure		Ĭ	
hPa	: 1200	\mathbf{I}	
Rated speed rpm	: 750	I	
Del. quantity	. 150	\mathbf{I}	
cm3/1000 strokes	: 129.0	Ţ	
Tolerance	. 167.0	I	
iotei ailee		i	

Tolerance cm3/1000 strokes

2.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.04.97 Test oil : ISO 4113

Combination No. : 0 400 074 884

Injection pump

Pump designation : PES4M55C32ORS184 EP type number : 0 410 054 938

Governor

Governer design. : RSF375/1900M77 Governer no. : 0 420 021 273

Cust. part No. :

Customer—spec. information Customer : MB-PKW Motor : OM601-2.3L

Power KW : 58.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 148.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.05
Tolerance mm : + 0.05
Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 21.00 Tolerance mm : + 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 16.50 Tolerance : + 0.20

Check

tolerance "NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.35 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 39.4

Tolerance

cm3/1000 strokes : + 0.5

Check tolerance cm3/1000s. : +- 1.5

Spreed

Tolerance

cm3/1000 strokes : 2.5

Check tolerance cm3/1000s. 3.0 : SET IDLE CONTROL LEVER POSITION Rated speed rpm 375 Rated speed rpm 1000 Rack travel in mm: 4.70 : 4- 0.10 Tolerance mm CRT mm max. 1.45 Del. quantity cm3/1000 strokes : 6.5 Tolerance LOW IDLE cm3/1000 strokes : +-0.5Spreed Tolerance control lever cm3/1000 strokes : 1.0 position degree : 14.0 tolerance degree : +- 2.0 (B) SETTING OF INJECTION PUMP Setting point w/out bumper spring WITH GOVERNOR Rated speed rpm : 375 rack travel mm 4.70 IDLE STAGE SET IDLE AUXILIARY SPRING Rated speed rpm Rack travel in mm : 6.25 rack travel mm 3.40 Tolerance mm : + 0.25Tolerance mm : + 0.10Load pick-up FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm 250 Rated speed rpm 1000 rack travel mm : > 10.20 Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm 1000 Del. quantity cm3/1000 strokes : 39.4 CRT mm max. 1.45 Tolerance cm3/1000 strokes : + 0.5rack travel mm 4.70 Check tolerance Rated speed rpm 375 cm3/1000s. 1.5 Spreed Tolerance cm3/1000 strokes : 2.5 TORQUE CONTROL Check tolerance 3.C cm3/1000S. : 1000 Rated speed rpm rack travel mm 12.35 Tolerance mm : + - 0.05RATED SPEED Rated speed rpm 1850 rack travel mm 12.30 control lever Tolerance inn : + 0.1050.0 position degree : 2200 Rated speed rpm ADJUSTMENT TEST ADA/ALDA : rack travel mm 5.60 : + 0.25Tolerance mm SETTING 2400 Rated speed rpm Rated speed rpm 1000 rack travel mm 0.50 Ref. pressure Tolerance mm : *~ 0.50 ALDA / ADA hPa 940 : rack travel mm -0.10

Tolerance mm

: + 0.10

		+ Del. quantity
MEASUREMENT		- cm3/1000 strokes : 59.8
LICHOOKELIEIAI		Tolerance
Rated speed rpm	. 1000	- cm3/1000 strokes : +- 4.0
Ref. pressure	: 1000	+ Check tolerance
ALDA / ADA hPa	: 900	
	; 900	
rack travel mm		Spreed
Tolerance mm	: 0.10	+ Tolerance
Doff proposition		cm3/1000 strokes : 6.0
Ref. pressure	. 750	Check tolerance
ALDA / ADA hPa		- cm3/1000s. : 6.0
rack travel mm		<u>Ţ</u>
Tolerance mm	: 0.20	T
		<u> </u>
		LOW IDLE
FUEL DELIVERY CHA	ADACTEDICTICS	T LOW THE
FOEL DEETVER! CHA	AVMC I EVTO I TOO	Rated speed rpm : 375
Ref. pressure		Del. quantity
ALDA / ADA hPa	. 1100	+ cm3/1000 strokes : 7.8
Rated speed rpm	• 1850	+ Check tolerance
Del. quantity	. 1030	cm3/1000s. : +- 2.3
cm3/1000 strokes	. /2 0	+ Spreed
Tolerance	. 42.0	T Spreed Check tolerance
cm3/1000 strokes	10	+ cm3/1000s. : 1.5
Check tolerance		
cm3/1000s.	: + 2.0	I
Spreed	2.0	T
Tolerance		
cm3/1000 strokes	: 2.5	${ m I}$
Check tolerance		\mathbf{I}
cm3/1000s.	: 3.0	control lever
CIR37 (00003.	. 3.0	position degree : > 47.00
		position degree . > 47.00
		1
HIGH IDLE		control lever
	,	position degree : < 44.50
Ref. pressure		+ to the total and the total a
ALDA / ADA hPa	: 1100	
Rated speed rpm		SETTING PNEUMATIC FAST IDLE (PLA)
rack travel mm		(PLA) POSITION
Tolerance mm		
Del. quantity		1
cm3/1000 strokes	: 16.0	control lever
Tolerance		position degree : 14.0
cm3/1000 strokes	· +- 2.0	tolerance degree : + 2.0
Check tolerance		+ cotor and degree E.o
cm3/1000s.		Rated speed rpm : 425
Spreed		1
Tolerance	,	Rack travel in mm: 7.00
cm3/1000 strokes	: 2.5	+ Tolerance mm : + 0.80
Check tolerance		Del. quantity
cm3/1000s.		+ cm3/1000 strokes : 15.3
		+ Tolerance
		cm3/1000 strokes : +- 3.5
STARTING FUEL DEL	IVERY	+ Check tolerance
		+ cm3/1000s. : +- 4.5
Rated speed rpm	: 100	- cm3/1000S. : +- 4.5 - Vacuum hPa : 450.0
rack travel mm		
APP PERSON IND	. > 20.10	1

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 375 Vacuum hPa : -450.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Test oil : 21.04.97 : ISO 4113

Combination No. : 0 402 076 802

Injection pump

Pump designation : PES6P120A1320/5RS337

: 3

EP type number : 0 412 026 794

Governor

Governer design. : RSV350...1050P8A643

Governer no. : 0 421 833 555

Cust. part No. : 1385930

Customer-spec. information Customer : SCANIA

Motor : DSI1171A,-C1156A

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

bar : 251.5
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 : +- 0.30 Phasing Tolerance

Check

tolerance °NW : + 0.50

Start of delivery mark

Tolerance : +- 0.30

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

_	
Rack travel in mm : 15.35 Tolerance mm : +- 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 226.0	Rated speed rpm : 700 Aneroid pressure
Tolerance cm3/1000 strokes : + 1.0	hPa : 1500 Del. quantity cm3/1000 strokes : 226.0
Check tolerance cm3/1000s. : + 7.0	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Spreed	cm3/1000S. : +- 7.0 Spreed Tolerance
Tolerance cm3/1000 strokes : 8.0	cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
Check tolerance cm3/1000s. : 12.0	(IID/1000)
<u> </u>	CONTROL LEVER
Rated speed rpm : 350	control lever position degree : 54.0
Rack travel in mm : 5.10 Tolerance mm : + 0.10 Del. quantity	tolerance degree : +- 4.0 control lever
cm3/1000 strokes : 18.0 + Tolerance + 3.0 + Tolerance	position degree : 104.0 tolerance degree : +- 4.0
Check tolerence + 6.0 + 6.0	RATED SPEED rack travel mm : 14.30
Spreed + Tolerance + cm3/1000 strokes : 4.0 +	Rated speed rpm : 1095 Tolerance 1/min : +- 5 Check
Check tolerance cm3/1000s. : 8.0	speed 1/min : + 10 rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1195 Tolerance 1/min : +- 15 Check
‡	speed 1/min : + 20
GUIDE SLEEVE POSITION	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1350
control lever position degree : -3 Rated speed rpm : 800	rack travel mm : 4.00 Rated speed rpm : 1215
Rack travel in mm : 0.50 Tolerance mm : + 0.20	
governor spring + pre-tension +	LOW IDLE
click setting x : 6.00	control lever position degree : 73.0 tolerance degree : +- 4.0

control lever

position degree : 23.0 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 350 rack travel mm : 4.60 Tolerance mm : + 0.10

Testing:

Rated speed rpm : 350 rack travel mm : 5.10 Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 555
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 700 rack travel mm : 15.35 Tolerance mm : +- 0.05

Rated speed rpm : 1050 rack travel mm : 15.35 Tolerance mm : +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 15.35
Tolerance mm : + 0.05

Pressure hPa : Rated speed rpm : 500
rack travel mm : 12.10
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 510 rack travel mm : 13.10 Tolerance mm : + 0.20

Pressure hPa : 780 rack travel mm : 14.50 Tolerance mm : + 0.05

Start interlock

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1500 Rated speed rpm : 1050

Del. quantity

cm3/1000 strokes : 209.0

Tolerance

cm3/1000 strokes : +- 4.0

Check tolerance

cm3/1000s. : +- 6.0

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 150.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.10
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 165.0
Tolerance
cm3/1000 strokes : + 20.0
Check tolerance

: +- 24.0

LOW IDLE

cm3/1000s.

Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. : +-6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s.8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.04.97 Test oil : ISO 4113

Combination No. : 0 402 648 603

Injection pump

Pump designation : PE8P12OA72OLS7427T EP type number : 0 412 628 919

Governor

Governer design. : RQ750PA1227-1 Governer no. : 0 421 801 812

Cust. part No. : 1391886

Customer—spec. information Customer : SCANIA

Motor : DSI(C)14...A,M

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Vibration damper

(RoBo diaphragm) : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-2A- 7- 3A- 4

: - 6 : element)

Phasing : 0-45-90-135-180

: -270-315 Tolerance : +- 0.30

Check

tolerance $^{\circ}NW$: +- 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 16.45

Tolerance mm : +- 0.05	+
Del. quantity	+ Rated speed rpm : 700 + Aneroid pressure
cm3/1000 strokes : 324.0	+ hPa : 1500
Tolerance cm3/1000 strokes : +- 1.0	+ cm3/1000 strokes : 324.0 + Tolerance
	+ cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s. : +- 10.0	Check tolerance
cm3/1000s. : +- 10.0	+ cm3/1000S. : +- 10.0 + Spreed
Spreed	Tolerance
Tolerance	+ cm3/1000 strokes : 8.0 + Check tolerance
cm3/1000 strokes : 8.0	+ cm3/1000s. : 12.0
	+
Check tolerance cm3/1000s. : 12.0	İ
	+ CONTROL LEVER
	+
	+ control lever + position degree : 28.0
Rack travel in mm: 6.50	+ tolerance degree : + 4.0
Tolerance mm : + 0.10	-
Del. quantity	+ control lever
cm3/1000 strokes : 38.0 Tolerance	position degree : 89.0
cm3/1000 strokes : +- 4.0	tolerance degree : +- 4.0
Check tolerance	+
cm3/1000s. : +- 6.0	ASSEMBLY GOVERNOR SETTING
Spreed Tolerance	Rated speed rpm : 750
cm3/1000 strokes : 5.0	+ Rated speed rpm : 750 + rack travel mm : 15.50
Check tolerance	+
cm3/1000s. : 9.0	+ Rated speed rpm : 785
	+ Tolerance 1/min : +- 4 + rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	+ 1 dex (1 dvet 11/11) . 4.00
WITH GOVERNOR	rack travel mm : 0.50
	+ Tolerance mm : +- 0.50
GUIDE SLEEVE TRAVEL	- + Rated speed rpm : 850
	+
Rated speed rpm : 759 guide sleeve travel mm : 4.86 Tolerance mm : + 0.15	- Rated speed rpm : 751
guide sleeve	rack travel mm : 15.50
travel mm : 4.86 Tolerance mm : + 0.15	Rated speed rpm : 786
The state of the s	+ Tolerance 1/min : +- 4
Rated speed rpm : 797	rack travel mm : 4.00
guida sleeve travel mm : 10.00	t nack though mm . 0.50
Tolerance mm : +- 0.25	+ rack travel mm : 0.50 + Tolerance mm : + 0.50
The second secon	+ Rated speed rpm : 850
Rated speed rpm : 850	+
guide sleeve travel mm : 11.50	Bated around are . 752
Tolerance mm : + 0.50	Rated speed rpm : 752 rack travel mm : 15.50
Total di loc lian	+ TOOK CLUVEE HAIF
	- + Rated speed rpm : 787
FULL LOAD DELIVERY AT FULL LOAD STOP	† Tolerance 1/min : +- 4

rack travel nam	: 4.00	Tolerance mm : + 0.05
rack travel mm	: 0.50	Pressure hPa : -
Tolerance mm	: +- 0.50	+ Rated speed rpm : 500
Rated speed rpm	: 850	rack travel mm : 12.50
		Tolerance mm : + 0.20
	7	+
Rated speed rpm		+ MEASUREMENT
rack travel mm	: 15.50	500
Rated speed rpm	: 788	+ Rated speed rpm : 500
Tolerance 1/min		Pressure hPa : 420
rack travel mm		+ rack travel mm : 13.60
		+ Tolerance mm : +- 0.20
rack travel mm	: 0.50	+
Tolerance mm	: +- 0.50	+ Pressure hPa : 680
Rated speed rpm	: 850	rack travel mm : 15.05
		† Tolerance mm : + 0.05
Rated speed rpm	: 754	T Start interlock
rack travel mm		Total contentock
		↓
Rated speed rpm	: 789	1
Tolerance 1/min		+ FUEL DELIVERY CHARACTERISTICS
rack travel mm	: 4.00	†
rack travel mm	: 0.50	+ Aneroid pressure
Tolerance min	: ← 0.50	+ hPa : - + Rated speed rpm : 500
Rated speed rpm		+ Del. quantity
		+ cm3/1000 strokes : 221.0
		† Tolerance
Rated speed rpm		+ cm3/1000 strokes : +- 1.0
rack travel man	: 15.50	Check tolerance
Rated speed rpm	: 790	+ cm3/1000s. : + 7.0
Tolerance 1/min		I
rack travel mm		
		+ STARTING FUEL DELIVERY
rack travel mm		+ .
Tolerance mm	: + 0.50	+ Rated speed rpm : 100
Rated speed rpm	: 850	+ rack travel mm : 12.50
		+ Tolerance mm : +- 0.20 + Del. quantity
		- cin3/1000 strokes : 180.0
TORQUE CONTROL		Tolerance
		+ cm3/1000 strokes : +- 20.0
Rated speed rpm		+ Check tolerance
rack travel mm		+ cm3/1000s. : + 24.0
Tolerance mm	: + 0.05	Ī
		<u> </u>
ANEROID/ALTITUDE		+
COMPENSATOR TEST		+
		†
CETTING		
SETTING		+ End of test specification sheet
Rated speed rom	: 500	Tim or test specification sheet

B05

Rated speed rpm Pressure hPa rack travel mm 500 1500 16.45

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18,04,97 Test oil : ISO 4113

Combination No. : 0 402 648 926

Injection pump

Pump designation : PE8P120A320LS7840 EP type number : 0 412 628 850

Governor

Governer design. : RQ300/1050PA972-11 Governer no. : 0 421 801 739

Cust. part No. : 0220747002

Customer-spec. information Customer : MB-NFZ : 0M442 A Motor Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance *C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar 0.1

Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar 208.5 Tolerance bar

Test lines : 1 680 750 075 Outside diameter: 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.25 : +- 0.05 Tolerance mm

Check

tolerance mm : **←** 0.10

Rack travel in mm: 20.50 Tolerance mm : + 0.50

: 8-7-2-6-3 Firing order

: - 4- 1

Phasing : 0-45-90-135-180

: -270-315

Tolerance : **←** 0.30

Check

tolerance $^{\circ}NW$: \leftarrow 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

1050 Rated speed rpm :

Rack travel in mm: 12.60

Tolerance mm : + 0.10

Del. quantity cm3/1000 strokes : 194.0

Tolerance

cm3/1000 strokes : +- 1.0

	† Tolerance mm : +- 0.10
Check tolerance	†
cm3/1000s. : +- 4.0	+ Rated speed rpm : 1290
	+ guide sleeve
Spreed	† travel mm : 11.50
	+ Tolerance mm : + 0.50
Tolerance	†
cm3/1000 strokes : 8.0	
	+ GUIDE SLEEVE POSITION
Check tolerance	†
cm3/1000s. : 11.0	†
	+ control lever
	+ position degree : 109
200	+ Rated speed rpm : 600
Rated speed rpm : 300	† - · · · · · · · · · · · · · · · · · ·
Deals Amount Survey / 50	+ Rack travel in mm : 20.00
Rack travel in mm: 6.50	† Tolerance mm : +- 0.80
Tolerance mm : + 0.10	†
Del. quantity	
cm3/1000 strokes : 13.0	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	The bank are a large state of the state of t
cm3/1000 strokes : +- 3.0	+ Rated speed rpm : 1050
Check tolerance	+ Aneroid pressure
cm3/1000s. : +- 6.0	+ hPa : 1000
Spreed	+ Del. quantity
Tolerance	+ cm3/1000 strokes : 194.0
cm3/1000 strokes : 4.0	+ Tolerance
Check tolerance	+ cm3/1000 strokes : + 1.0
cm3/1000s. : 8.0	+ Check tolerance
	+ cm3/1000s. : + 4.0
(D) OPTITALS OF THE STRONG SHIPS	+ Spreed
(B) SETTING OF INJECTION PUMP	+ Tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ Tolerance + cm3/1000 strokes : 8.0
	Tolerance + cm3/1000 strokes : 8.0 + Check tolerance
WITH GOVERNOR	+ Tolerance + cm3/1000 strokes : 8.0
	Tolerance + cm3/1000 strokes : 8.0 + Check tolerance
GUIDE SLEEVE TRAVEL	Tolerance + cm3/1000 strokes : 8.0 + Check tolerance
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 11.0
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve	Tolerance + cm3/1000 strokes : 8.0 + Check tolerance
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37	Tolerance om3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 11.0 CONTROL LEVER
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 11.0 CONTROL LEVER control lever
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 96.0
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10	Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 96.0
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve	Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 11.0 CONTROL LEVER control lever position degree: 96.0 tolerance degree: +4.0
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.85	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 96.0 tolerance degree : + 4.0 RATED SPEED
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.85	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER control lever position degree : 96.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.60
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.85 Tolerance mm : + 0.10	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 96.0 tolerance degree : + 4.0 RATED SPEED
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.85 Tolerance mm : + 0.10	Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000S.: 11.0 CONTROL LEVER control lever position degree: 96.0 tolerance degree: + 4.0 RATED SPEED rack travel mm: 11.60 Rated speed rpm: 1098
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.85 Tolerance mm : + 0.10 Rated speed rpm : 1.85 Tolerance mm : + 0.10	Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000S.: 11.0 CONTROL LEVER control lever position degree: 96.0 tolerance degree: + 4.0 RATED SPEED rack travel mm: 11.60 Rated speed rpm: 1098
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.85 Tolerance mm : + 0.10 Rated speed rpm : 0.10 Rated speed rpm : 1050 guide sleeve	Tolerance om3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 11.0 CONTROL LEVER control lever position degree: 96.0 tolerance degree: + 4.0 RATED SPEED rack travel mm: 11.60 Rated speed rpm: 1098 Tolerance 1/min: + 8
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.85 Tolerance mm : + 0.10 Rated speed rpm : 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.00	Tolerance om3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 11.0 CONTROL LEVER control lever position degree: 96.0 tolerance degree: + 4.0 RATED SPEED rack travel mm: 11.60 Rated speed rpm: 1098 Tolerance 1/min: + 8 rack travel mm: 4.00
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.85 Tolerance mm : + 0.10 Rated speed rpm : 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.00	Tolerance om3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 11.0 CONTROL LEVER control lever position degree: 96.0 tolerance degree: + 4.0 RATED SPEED rack travel mm: 11.60 Rated speed rpm: 1098 Tolerance 1/min: + 8 rack travel mm: 4.00 Rated speed rpm: 1200
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.85 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10	Tolerance om3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 11.0 CONTROL LEVER control lever position degree: 96.0 tolerance degree: + 4.0 RATED SPEED rack travel mm: 11.60 Rated speed rpm: 1098 Tolerance 1/min: + 8 rack travel mm: 4.00 Rated speed rpm: 1200
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.85 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 6.00 Tolerance mm : + 0.10	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 96.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.60 Rated speed rpm : 1098 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.85 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 402 guide sleeve	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER control lever position degree : 96.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.60 Rated speed rpm : 1098 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15 rack travel mm : 0.75
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.85 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 402 guide sleeve travel mm : 402 guide sleeve travel mm : 3.68	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER control lever position degree : 96.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.60 Rated speed rpm : 1098 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : 0.75
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.85 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 402 guide sleeve travel mm : 402 guide sleeve travel mm : 3.68	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER control lever position degree : 96.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.60 Rated speed rpm : 1098 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : 0.75
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.85 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 402 guide sleeve travel mm : 3.68 Tolerance mm : + 0.10 Rated speed rpm : 3.68 Tolerance mm : + 0.10 Rated speed rpm : 540 guide sleeve travel mm : 540 guide sleeve	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER control lever position degree : 96.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.60 Rated speed rpm : 1098 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : 0.75
GUIDE SLEEVE TRAVEL Rated speed rpm : 1104 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.85 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 402 guide sleeve travel mm : 3.68 Tolerance mm : + 0.10 Rated speed rpm : 3.68 Tolerance mm : + 0.10	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER control lever position degree : 96.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.60 Rated speed rpm : 1098 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : 0.75

		+ rack travel nm : 12.35
		track travel nm : 12.35 Tolerance mm : +- 0.20
LOW IDLE	-	- 0.25
	-	Start interlock
	-	
control lever	. 7/ 0	Rated speed rpm : > 100
position degree tolerance degree		Rated speed rpm : < 220
toter arice degree	4.0	- Check
Testing:	_	speed 1/min :> 80
	-	- Check
Rated speed rpm	: 300 -	speed 1/min : < 240
rack travel mm	: 6.50	}
Tolerance mm	: + 0.10	
		FUEL DELIVERY CHARACTERISTICS
rack travel mm	: 2.00	A
Rated speed rpm Tolerance 1/min	: 435 - : + 20 -	Aneroid pressure
roterance i/min	; — 20	hPa : 1000 Rated speed rpm : 800
Rated speed rpm	: 200	+ Del. quantity
Hatta speed that		cm3/1000 strokes : 195.0
CRT mm min.	: > 7.90	Tolerance
	-	cm3/1000 strokes : + 2.0
		Check tolerance
TORQUE CONTROL	-	cm3/1000s. : +- 5.0
Datad amount ann	. 1050	A
Rated speed rpm rack travel mm	: 1050 - : 12.60 -	+ Aneroid pressure + hPa : -
Tolerance mm	: + 0.10	Rated speed rpm : 500
TOTEL BLISCE HAIR	0.10	Del. quantity
Rated speed rpm	: 800 -	cm3/1000 strokes : 138.0
rack travel mm		Tolerance
Tolerance mm	: - 0.10 -	cm3/1000 strokes : + 1.0
	-	- Check tolerance
ANISATA (A) 377115	_	+ cm3/1000s. : + 4.0
ANEROID/ALTITUDE COMPENSATOR TEST	-	+
COMPENSATOR TEST		
	_	STARTING FUEL DELIVERY
SETTING	-	
	- -	Rated speed rpm : 100
Rated speed rpm	: 450 -	Del. quantity
Pressure hPa	: 1000	cm3/1000 strokes : 190.0
rack travel mm	: 12.60	Tolerance
Tolerance mm	: +- 0.05	cm3/1000 strokes : +- 15.0 Check tolerance
Pressure hPa	• -	- cm3/1000s. : +- 19.0
Rated speed rpm	450	L
rack travel mm	11.10	
Tolerance mm	: ← 0.15	
	7	
MEASUREMENT	-	LOW IDLE
	, <u>50</u>	700
Rated speed rpm	: 450	Rated speed rpm : 300
Pressure hPa	: 380	- Del. quantity - cm3/1000 strokes : 13.0
rack travel mm	: 12.10	F Cilistrodus strokes : 13.0
Tolerance mm	: + 0.15	cm3/1000 strokes : +- 3.0
	- ·	Check tolerance
Pressure hPa	: -	cm3/1000s. : +- 6.0

Spreed

Tolerance cm3/1000 strokes : 4.0

Check tolerance cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.04.97 Test oil : ISO 4113

Combination No. : 0 402 648 927

Injection pump

Pump designation : PE8P120A320LS7840 EP type number : 0 412 628 850

Governor

Governer design. : RQV300...1050PA797

: 8

Governer no. : 0 421 814 084

Cust. part No. : 0220747102

Customer—spec. information Customer : MB-NFZ Motor : 0M442 A Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05 Check

Lneck

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

: - 4- 1

Phasing : 0-45-90-135-180

: -270-315

Tolerance : \leftarrow 0.30

Check

tolerance $^{\circ}NW$: +- 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.60
Tolerance mm: + 0.05

Del. quantity cm3/1000 strokes : 194.0

B10

Tolerance	- Check tolerance - cm3/1000S. : +- 4.0
cm3/1000 strokes : +- 1.0	- Spreed - Tolerance
Check tolerance	cm3/1000 strokes : 6.0 Check tolerance
Spreed	- cm3/1000s. : 9.0
Talassas	
Tolerance cm3/1000 strokes : 6.0	- CONTROL LEVER
Check tolerance cm3/100Os. : 9.0	control lever position degree : 122.0 tolerance degree : +- 4.0
*	DATES ODEES
Rated speed rpm : 300	- RATED SPEED - rack travel mm : 11.60
Rack travel in mm : 6.50	- Rated speed rpm : 1095 - Tolerance 1/min : +- 5
Tolerance mm : + 0.10	
Del. quantity - cm3/1000 strokes : 13.0 -	- rack travel mm : 4.00 - Rated speed rpm : 1165
Tolerance	- Rated speed rpm : 1165 - Tolerance 1/min : +- 15
cm3/1000 strokes : +- 3.0	
Check tolerance - 6.0 - 6.0	rack travel mm : 0.50 Tolerance mm : +- 0.50
Spreed	Rated speed rpm : 1250
Tolerance -	<u>'</u>
cm3/1000 strokes : 4.0 - Check tolerance -	
cm3/100QS. : 8.0	
4	- LOW IDLE
(B) SETTING OF INJECTION PUMP	- -
WITH GOVERNOR	- control lever
7	- position degree : 86.0

	- tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	Testing:
	Testing: Rated speed rpm : 300
control lever	Testing: Rated speed rpm : 300 rack travel mm : 6.50
	Testing: Rated speed rpm : 300 rack travel mm : 6.50 Tolerance mm : + 0.10
control lever - position degree : - 1 - Rated speed rpm : 1100 -	Testing: Rated speed rpm : 300 rack travel mm : 6.50
control lever - position degree : - 1	Testing: Rated speed rpm : 300 rack travel mm : 6.50 Tolerance mm : + 0.10
control lever position degree : - 1 Rated speed rpm : 1100 Rack travel in mm : 16.50	Testing: Rated speed rpm : 300 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 200 CRT mm min. : > 7.90
control lever position degree : - 1 Rated speed rpm : 1100 Rack travel in mm : 16.50	Testing: Rated speed rpm : 300 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 200 CRT mm min. : > 7.90
control lever position degree : - 1 Rated speed rpm : 1100 Rack travel in mm : 16.50 Tolerance mm : +- 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure	Testing: Rated speed rpm : 300 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 200 CRT mm min. : > 7.90
control lever position degree : - 1 Rated speed rpm : 1100 Rack travel in mm : 16.50 Tolerance mm : +- 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000	Testing: Rated speed rpm : 300 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 200 CRT mm min. :> 7.90 Rated speed rpm : 375 TORQUE CONTROL Rated speed rpm : 1050
control lever position degree : - 1 Rated speed rpm : 1100 Rack travel in mm : 16.50 Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Del. quantity	Testing: Rated speed rpm : 300 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 200 CRT mm min. :> 7.90 Rated speed rpm : 375 TORQUE CONTROL Rated speed rpm : 1050 rack travel mm : 12.60
control lever position degree : - 1 Rated speed rpm : 1100 Rack travel in mm : 16.50 Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 194.0 Tolerance	Testing: Rated speed rpm : 300 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 200 CRT mm min. : > 7.90 Rated speed rpm : 375 TORQUE CONTROL Rated speed rpm : 1050 rack travel mm : 12.60 Tolerance mm : +- 0.05
control lever position degree : - 1 Rated speed rpm : 1100 Rack travel in mm : 16.50 Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 194.0	Testing: Rated speed rpm : 300 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 200 CRT mm min. :> 7.90 Rated speed rpm : 375 TORQUE CONTROL Rated speed rpm : 1050 rack travel mm : 12.60

Tolerance mm	: +- 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Pressure hPa rack travel mm Tolerance mm	: 1000 : 12.60 : + 0.05
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 450 : 11.10 : + 0.15
MEASUREMENT	
Pressure hPa rack travel mm Tolerance mm	: 380 : 12.10 : + 0.15
Pressure hPa rack travel mm Tolerance mm	: - : 12.35 : +- 0.20
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 220
Check speed 1/min	: > 80
Check speed 1/min	: < 240
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1000 : 800
Del. quantity cm3/1000 strokes	: 195.0
Tolerance cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s.	: + 5.0
Aneroid pressure	
hPa Rated speed rpm	: – : 500
Del. quantity cm3/1000 strokes	: 138.0

1.0

4.0

STARTING FUEL DELIVERY 100 Rated speed rpm : Del. quantity cm3/1000 strokes : 190.0 Tolerance cm3/1000 strokes : + 10.0Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s.8.0

End of test specification sheet

Tolerance

cm3/1000 strokes : +-

Check tolerance cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.04.97 Test oil : ISO 4113

Combination No. : 0 402 678 833

Injection pump

Pump designation : PE8P120A720LS7358 EP type number : 0 412 628 899

Governor

Governer design. : RSV350...1100P8A652

: 1

Governer no. : 0 421 833 570

Cust. part No. : 1391880

Customer—spec. information Customer : SCANIA

Motor : DSI1468M/-75M

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Vibration

damper

(RoBo diaphragm) : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-2A- 7- 3A- 4

: - 6

: elemente)

Phasing : 0-45-90-135-180

: -270-315

Tolerance : + 0.30

Check

tolerance *NW : +- 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

700

Rack travel in mm: 14.95	
Tolerance mm : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 283.0	Rated speed rpm : 700 Aneroid pressure hPa : 1500
Tolerance cm3/1000 strokes : + 1.0	Del. quantity cm3/1000 strokes : 283.0 Tolerance
Check tolerance cm3/1000s. : + 8.0	cm3/1000 strokes : +- 1.0 Check tolerance
Spreed	cm3/1000s. : +- 8.0 Spreed Tolerance
Tolerance cm3/1000 strokes : 8.0	cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
Check tolerance cm3/1000s. : 12.0	
 <u> </u>	CONTROL LEVER
Rated speed rpm : 350	control lever position degree : 59.0
Rack travel in mm: 5.80 Tolerance mm: + 0.10	tolerance degree : + 4.0
Del. quantity cm3/1000 strokes : 42.0 Tolerance	<pre>control lever position degree : 109.0 tolerance degree : +- 4.0</pre>
cm3/1000 strokes : + 3.0 Check tolerance	RATED SPEED
cm3/1000s. : + 6.0 + 5preed	rack travel mm : 13.95 Rated speed rpm : 1145
Tolerance cm3/1000 strokes : 4.0 Check tolerance	Tolerance 1/min : +- 5 Check speed 1/min : +- 10
cm3/?000s. : 8.0	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1240 Tolerance 1/min : +- 15 Check
+	speed 1/min : +- 20
GUIDE SLEEVE POSITION	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1400
control lever position degree : -3 Rated speed rpm : 800	rack travel mm : 4.00 Rated speed rpm : 1270
Rack travel in mm : 0.50 Tolerance mm : + 0.20	
governor spring + pre-tension +	LOW IDLE
click setting x : 6.00	control lever position degree : 76.0 tolerance degree : +- 4.0

control lever position degree tolerance degree	: 26.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm rack travel mm Tolerance mm	
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.80 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 580 : +- 30
Rated speed rpm	: 100
CRT mm min.	: > 10.50
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 700 : 14.95 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 14.95 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 14.95 : +- 0.05
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 10.80 : + 0.20
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 540 : 12.30 : + 0.20

Pressure hPa rack travel mm Tolerance mm Start interlock	: 850 : 13.95 : +- 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 173.0 : +- 1.0 : +- 5.0
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
LOW IDLE	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 350 : 42.0 : + 3.0 : + 6.0

cm3/1000s.	:	8.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.04.97 Test oil : ISO 4113

Combination No. : 0 402 678 836

Injection pump

Pump designation : PE8P120A320LS7844 EP type number : 0 412 628 860

Governor

Governer design. : RSV550...1050P0A672

Governer no. : 0 421 833 591

Cust. part No. : 0270746402

Customer-spec. information Customer : MB-NFZ Motor : 0M442LA Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 110 Tolerance l/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 2.5

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.00 Tolerance mm : + 1.00

Firing order : 8-7-2-6-3

: - 4- 1

Phasing : 0-45-90-135-180

: -270-315 Tolerance : +- 0.30

Check

tolerance *NW : + 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 15.60

Tolerance mm : +- 0.05	+ Rated speed rpm : 1050 + Aneroid pressure
Del. quantity cm3/1000 strokes : 270.0	hPa : 1200 Del. quantity
	+ cm3/1000 strokes : 270.0
Tolerance cm3/1000 strokes : +- 1.0	+ Tolerance + cm3/1000 strokes : +- 1.0 + Check tolerance
Check tolerance cm3/1000s. : +- 4.0	+ cm3/1000s. : +- 4.0
CIID/ 10003 +- 4.0	+ Spreed + Tolerance
Spreed	cm3/1000 strokes : 5.0 Check tolerance
Tolerance cm3/1000 strokes : 5.0	cm3/1000s. : 9.0
Check tolerance	I
cm3/1000s. : 9.0	+ CONTROL LEVER
	t control lever
	position degree : 90.0
Rated speed rpm : 550	tolerance degree : + 4.0
Rack travel in mm : 3.80	†
Tolerance mm : +- 0.10	ASSEMBLY GOVERNOR SETTING
Del. quantity	+
cm3/1000 strokes : 19.0	Rated speed rpm : 1070
Tolerance	+ Tolerance 1/min : + 1
cm3/1000 strokes : +- 3.0	† rack travel mm : 14.60
Check tolerance	† Datadayandayan A110
cm3/1000s. : +- 6.0	+ Rated speed rpm : 1110 + Tolerance 1/min : + 4
Spreed Tolerance	+ rack travel mm : 4.00
cm3/1000 strokes : 8.0	T Tack Clavet IIIII : 4.00
Check tolerance	rack travel mm : 0.85
cm3/1000s. : 12.0	+ Tolerance mm : + 0.55
	Rated speed rpm : 1200
(B) SETTING OF INJECTION PUMP	1
WITH GOVERNOR	Rated speed rpm : 1071
WITH GOVERNOR	+ Tolerance 1/min : + 1
	+ rack travel mm : 14.60
	+
GUIDE SLEEVE POSITION	+ Rated speed rpm : 1111
	Tolerance 1/min : + 4
control lever	† rack travel mm : 4.00
position degree : - 3	rack travel mm : 0.85
Rated speed rpm : 800	+ Tolerance mm : + 0.55
· · · · ·	+ Rated speed rpm : 1200
Rack travel in mm: 0.50	†
Tolerance mm : +- 0.20	Total analysis (1970)
governon enning	+ Rated speed rpm : 1072 + Tolerance 1/min : +- 1
governor spring pre-tension	Tolerance 1/min : +- 1 rack travel mm : 14.60
click setting x : 2.00	Tack cravec limit . 14.00
TOTAL COUNTY IN THE COURT	Rated speed rpm : 1112
	+ Tolerance 1/min : +- 4
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 4.00

rack travel mm Tolerance mm	: + 0.55 +	Rated speed rpm : 100
Rated speed rpm	: 1200	CRT mm min. : > 19.50
Data dama adama	4077	SET IDLE AUXILIARY SPRING
Rated speed rpm Tolerance 1/min rack travel mm	: ← 1 ∔	rack travel mm : 2.00
Rated speed rpm Tolerance 1/min	: ← 4 +	TORQUE CONTROL
rack travel mm	+	Rated speed rpm : 1050 rack travel mm : 15.60
rack travel mm Tolerance mm Pated speed nom	: + 0.55 +	Tolerance mm : +- 0.05
Rated speed rpm	: 1200	Rated speed rpm : 600 rack travel mm : 15.60 Tolerance mm : +- 0.10
Rated speed rpm Tolerance 1/min		
rack travel mm	: 14.60	ANEROID/ALTITUDE COMPENSATOR TEST
Rated speed rpm Tolerance 1/min		
rack travel mm		SETTING
rack travel mm Tolerance mm Rated speed rpm		Rated speed rpm : 500 Pressure hPa : 1200 rack travel mm : 15.60
Rated speed rpm	: 1200 +	rack travel mm : 15.60
Rated speed rpm Tolerance 1/min		Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50
rack travel mm		MEASUREMENT
Rated speed rpm Tolerance 1/min	: ← 4 +	Rated speed rpm : 500
rack travel mm	: 4.00	Pressure hPa : 500
rack travel mm Tolerance mm		rack travel mm : 11.00
		Pressure hPa : 700 rack travel mm : 13.00
LOW IDLE	‡	Start interlock
control lever	‡	
position degree tolerance degree		FUEL DELIVERY CHARACTERISTICS
Testing:	1	Aneroid pressure hPa : 1200
Rated speed rpm		Rated speed rpm : 600
rack travel mm Tolerance mm		Del. quantity cm3/1000 strokes : 290.0 Tolerance
rack travel mm Rated speed rpm		cm3/1000 strokes : +- 2.0 Check tolerance
Tolerance 1/min		cm3/1000s. : +- 5.0

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity cm3/1000 strokes : 162.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000S.4.0 : +-

STARTING FUEL DELIVERY

100 Rated speed rpm rack travel mm 16.50 :

Del. quantity

cm3/1000 strokes : 280.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

cm3/1000S. : + 19.0

LOW IDLE

Rated speed rpm 550

Del. quantity cm3/1000 strokes : 19.0

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s.6.0

Spreed Tolerance

cm3/1000 strokes : 0.8

Check tolerance

cm3/1000s.12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 17,04,97 : ISO 4113

Combination No. : 0 402 678 839

Injection pump

Pump designation : PE8P120A320LS7912 EP type number : 0 412 628 927

Governor

Governer design. : RSV550...1050POA681

Governer no. : 0 421 833 600

Cust. part No. : 028 074 2802

Customer-spec. information Customer : MB-NFZ

Motor : OM402LA, Euro

Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 047

2.0 Inlet press. bar : Tolerance bar : + 0.1

Overflow quantity : 120

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : \leftarrow 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 20.50 : +- 0.50 Tolerance mm

Firing order : 8-7-2-6-3

: - 4- 1

Phasing : 0-45-90-135-180

: -270-315

Tolerance : +- 0.30

Check

tolerance °NW : → 0.50

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1030

Rack travel in mm : 13.70

Tolerance mm	: ← 0.05	+ Del. quantity	
		+ cm3/1000 strokes	: 208.0
Del. quantity cm3/1000 strokes	: 208.0	Tolerance	: + 1.0
CMS/ 1000 Strokes	: 200.0	+ cm3/1000 strokes + Check tolerance	: ← 1.0
Tolerance		+ cm3/1000s.	: + 4.0
cm3/1000 strokes	: ← 1.0	+ Spreed	
Check tolerance		+ Tolerance + cm3/1000 strokes	: 5.0
cm3/1000s.	: ← 4.0	Check tolerance	. 5.0
		+ cm3/1000s.	: 9.0
Spreed		†	
Tolerance		ASSEMBLY GOVERNOR	SETTING
cm3/1000 strokes	: 5.0	+	
Check tolerance		+ Rated speed rpm	: 1070
cm3/1000s.	: 9.0	† Tolerance 1/min † rack travel mm	: + 1 : 12.70
		+	12110
		+ Rated speed rpm	
Rated speed rpm	: 550	+ Tolerance 1/min + rack travel mm	: + 4 : 4.00
Marca speca i piii	. 250	+	. 4.00
Rack travel in mm		† rack travel mm	: 0.55
Tolerance mm Del. quantity	: - 0.10	+ Tolerance mm + Rated speed rpm	: + 0.55 : 1300
cm3/1000 strokes	: 18.0	T Raced speed (pill)	. 1500
Tolerance		+	
cm3/1000 strokes	: +- 3.0	+ Rated speed rpm	: 1071
Check tolerance cm3/1000S.	: +- 6.0	+ Tolerance 1/min + rack travel mm	: + 1 : 12.70
Spreed	0.0	+ don traver man	. 12.10
Tolerance		+ Rated speed rpm	: 1111
cm3/1000 strokes Check tolerance	: 8.0	+ Tolerance 1/min + rack travel mm	: +- 4
cm3/1000S.	: 12.0	Tack travet limit	. 4.00
		rack travel mm	: 0.55
(B) SETTING OF IN.	IECTION DIMP	† Tolerance mm	: +~ 0.55
WITH GOVERNOR	IECLIOIA LOUIL	Ţ	
		Rated speed rpm	
		+ Tolerance 1/min + rask travel mm	
GUIDE SLEEVE POSIT	TION	T rask travet min	12.70
	•	Rated speed rpm	
aantmal layan		+ Tolerance 1/min + rack travel mm	
control lever position degree	: - 3	rack travel mm	: 4.00
Rated speed rpm		rack travel mm	: 0.55
Deat terminal to an	0.50	+ Tolerance mm	: ← 0.55
Rack travel in mm Tolerance mm		Ī	
		Rated speed rpm	: 1073
FILL LOAD OF TURE	/ AT FINE LOAD CTCC	† Tolerance 1/min	
FULL LUAD DELIVERY	AT FULL LOAD STOP	† rack travel mm	: 12.70
Rated speed rpm	: 1030	Rated speed rpm	: 1113
Aneroid pressure		+ Tolerance 1/min	: +- 4
hPa	: 1000	rack travel mm	: 4.00
		Т	

rack travel mm Tolerance mm		Rated speed rpm : 600 rack travel mm : 14.70 Tolerance mm : + 0.10
Rated speed rpm Tolerance 1/min rack travel mm	: +- 1 +	Rated speed rpm : 900 rack travel mm : 14.20 Tolerance mm : + 0.05
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4	ANEROID/ALTITUDE COMPENSATOR TEST
rack travel mm Tolerance mm	: 0.55 : + 0.55	SETTING
Rated speed rpm Tolerance 1/min rack travel mm	: +- 1	Rated speed rpm : 500 Pressure hPa : 1000 rack travel mm : 14.70 Tolerance mm : + 0.15
Rated speed rpm Tolerance 1/min rack travel mm	: - 4 +	Pressure hPa : - Rated speed rpm : 500 rack travel mm : 12.40 Tolerance mm : + 0.10
rack travel mm Tolerance mm	: 0.55 : + 0.55	MEASUREMENT
LOW IDLE		Rated speed rpm : 500
control lever position degree tolerance degree Testing:	: 67.0 : +- 4.0	Pressure hPa : 650 rack travel mm : 13.40 Tolerance mm : + 0.15 Pressure hPa : 750 rack travel mm : 14.00 Tolerance mm : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 3.60	Start interlock
rack travel mm Rated speed rpm Tolerance 1/min	: 590 +	FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 1000
Rated speed rpm	: 100	Rated speed rpm : 600 Del. quantity
CRT mm min.	: > 19.50	cm3/1000 strokes : 240.0 Tolerance
SET IDLE AUXILIA	RY SPRING	cm3/1000 strokes : +- 2.0 Check tolerance
rack travel mm	: 2.00	cm3/1000s. : +- 5.0 Spreed Tolerance
TORQUE CONTROL	Ţ	cm3/1000 strokes : 8.0
Rated speed rpm rack travel mm Tolerance mm		Check tolerance cm3/1000S. : 12.0 Aneroid pressure hPa : -

Rated speed rpm Del. quantity	:	500	
cm3/1000 strokes	:	170.0	
Tolerance cm3/1000 strokes	: +-	1.0	
Check tolerance cm3/1000s.	: +-	4.0	
Spreed Tolerance			
cm3/1000 strokes Check tolerance	:	5.0	
cm3/1000s.	:	9.0	

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 220.0
Tolerance
cm3/1000 strokes : - 10.0
Check tolerance
cm3/1000s. : + 14.0

LOW IDLE

Rated speed rpm 550 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s.6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17,04,97 : ISO 4113 Test oil

Combination No. : 0 402 744 801

Injection pump

Pump designation : PES4P120A320RS7380

EP type number : 0 412 724 802

Governor

Governer design. : RQV275...1200PA1232K

Governer no. : 0 421 815 469

Cust. part No. : CCEP 5149B 66-237

Customer-spec. information

Customer : RENAULT V.I.

: MIDR 04-02-26 B4 Motor

Power KW : 110.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Overflow quantity

: 105 min. L/h min. L/h : 105
Tolerance L/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

: 5.00 : + 0.05 Prestroke mm Tolerance ma

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 11.00 Toleranse mm : + 0.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : +- 0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

*NW before FB : 0.30

Tolerance : +- 0.50 Check tolerance *NW : **←** 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

travel 11.00 Difference * CS : 1.50

	+ Rated speed rpm : 325
	† guide sleeve
CRT ZERO POSITION	travel mm : 1.52
	† Tolerance mm : + 0.20
01 A 10 mm - 40 00	† 24
Rack travel in mm : 12.80	+ Rated speed rpm : 894
Tolerance mm : +- 0.05	guide steeve
	travel mm : 6.60 Tolerance mm : + 0.25
BASIC SETTING	Tolerance mm : +- 0.25
DWOTE SELLTING	Rated speed rpm : 560
Rated speed rpm : 1200	+ Rated speed rpm : 560 + guide sleeve
Naced Speed (pill : 1200	travel mm : 4.01
Del. quantity	+ Tolerance mm : + 0.25
cm3/1000 strokes : 239.0	Total and the second se
	Rated speed rpm : 1650
Tolerance	guide sleeve
cm3/1000 strokes : + 1.0	+ travel mm : 13.50
	+ Tolerance mm : + 0.50
Check tolerance	+
cm3/1000s. : + 4.0	ļ
	+ GUIDE SLEEVE POSITION
Spreed	+
	+
Tolerance	+ control lever
cm3/1000 strokes : 5.0	→ position degree : - 1
	+ Rated speed rpm : 1482
Check tolerance	+
cm3/1000s. : 9.0	+ Rack travel in mm : 11.70
	+ Tolerance mm : +- 1.30
	†
700	
Rated speed rpm : 325	FULL LOAD DELIVERY AT FULL LOAD STOP
,	+
Rack travel in mm : -6.80	Rated speed rpm : 1200
Rack travel in mm : -6.80 Tolerance mm : + 0.10	Rated speed rpm : 1200 Aneroid pressure
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del. quantity	Rated speed rpm : 1200 Aneroid pressure hPa : 1200
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 40.0	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 40.0 Tolerance	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del, quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s.: + 6.0	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del, quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s. : + 6.0 Spreed	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : - 4.0
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del, quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s.: + 6.0 Spreed Tolerance	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : - 4.0 Spreed
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del, quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s.: + 6.0 Spreed Tolerance cm3/1000 strokes: 8.0	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : - 4.0 Spreed Tolerance
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del, quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : - 4.0 Spreed Tolerance cm3/1000 strokes : 5.0
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del, quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s.: + 6.0 Spreed Tolerance cm3/1000 strokes: 8.0	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del, quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : - 4.0 Spreed Tolerance cm3/1000 strokes : 5.0
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del, quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s.: + 6.0 Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000 strokes: 12.0	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : - 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s: + 6.0 Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000 strokes: 12.0	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000 strokes: 12.0	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000strokes : + 1.0 Check tolerance cm3/1000s. : - 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s.: + 6.0 Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000 strokes: 12.0	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000strokes : + 1.0 Check tolerance cm3/1000s. : - 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s.: + 6.0 Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : - 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del, quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : - 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s.: + 6.0 Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 1272 guide sleeve	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : - 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever position degree : 296.0
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s.: + 6.0 Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 1272	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : - 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever position degree : 296.0
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s.: + 6.0 Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 1272 guide sleeve	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : - 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 296.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : -1.00
Rack travel in mm: -6.80 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 40.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s.: + 6.0 Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 1272 guide sleeve travel mm: 9.31	Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : - 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 296.0 tolerance degree : + 4.0 RATED SPEED

Tolerance 1/min	; + 15
rack travel mm Rated speed rpm Tolerance 1/min	: -8.80 : 1410 : +- 5
rack travel mm Tolerance mm Rated speed rpm	: -12.30 : +- 0.50 : 1500
LOW IDLE	
control lever position degree tolerance degree	: 253.0 : +- 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 325 : -6.80 : +- 0.10
Rated speed rpm	: 200
CRT mm min.	; < -4.70
Rated speed rpm	: 390
TORQUE CONTROL	
Rated speed rpm	: 1200
Reted speed rpm rack travel mm Tolerance mm	: 700 : -1.15 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 350 : −2.90 : ← 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 1200 : 1200
Pressure hPa Rated speed rpm rack travel mm	: - : 500 : -4.10 : +- 0.20

MEASUREMENT	
Rated speed rpm	: 1200
Pressure hPa rack travel mm Tolerance mm	: 200 : -3.40 : +- 0.20
Pressure hPa rack travel mm Tolerance mm	: 320 : −2.75 : ← 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: > 155 : < 275
Check speed 1/min Check	: > 135 : < 285
speed 1/min	. \ 20)
FUEL DELIVERY CHA	
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm	
FUEL DELIVERY CHA Aneroid pressure hPa	RACTERISTICS : 1200 : 700
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1200 : 700 : 240.0
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 1200 : 700 : 240.0
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	RACTERISTICS : 1200 : 700 : 240.0 : ← 3.0
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	RACTERISTICS : 1200 : 700 : 240.0 : + 3.0 : + 6.0 : - 500
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity	RACTERISTICS : 1200 : 700 : 240.0 : + 3.0 : + 6.0 : - 500

STARTING FUEL DELIVERY

Rated speed rpm 100 Del. quantity cm3/1000 strokes : 90.0 Tolerance cm3/1000 strokes : \leftarrow 15.0 Check tolerance cm3/1000s. : + 19.0

rack travel mm Tolerance mm

: +- 0.20

LOW IDLE

Rated speed rpm Del. quantity	:	325	
cm3/1000 strokes Tolerance	:	40.0	
cm3/1000 strokes	: +-	2.0	
Check tolerance cm3/1000s.	: +-	6.0	
Spreed Tolerance			
cm3/1000 strokes	:	8.0	
Check tolerance cm3/1000S.	:	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17.04.97 Edition : ISO 4113 Test oil

Combination No. : 0 402 744 804

Injection pump

Pump designation : PES4P120A320RS7402

EP type number : 0 412 724 804

Governor

Governer design. : RQV275...1200PA1257K

Governer no. : 0 421 815 494

Cust. part No. : CCEP 5154A 66-238

Customer-spec. information

Customer : RENAULT V.I.

: MIDR U4-02-26 A4 Motor

: 100.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Overflow quantity

: 125 min. L/h min. l/h : 125 Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

: 5.10 : + 0.05 Prestroke mm Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 13.00 Tolerance mm : \leftarrow 0.50

Firing order : 1-3-4-2

: 0-90-180-270 : +- 0.30 Phasing

Tolerance

Check

tolerance $^{\circ}NW$: \leftarrow 0.50

Start of delivery mark

*NW after s.o.d. : -0.30

Tolerance : +- 0.50 Check

tolerance 'NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

travel travel : 13.00 Difference ° CS : 2.40 13.00

CRT ZERO POSITION		+ Rated speed rpm : 325 + guide sleeve + travel mm : 1.52 + Tolerance mm : + 0.20
Rack travel in mm Tolerance mm		Rated speed rpm : 938 guide sleeve travel mm : 6.86 Tolerance mm : + 0.25
BASIC SETTING		+
Rated speed rpm	: 1200	+ Rated speed rpm : 550 + guide sleeve + travel mm : 3.92
Del. quantity cm3/1000 strokes	: 261.0	Tolerance mm : + 0.25
Tolerance cm3/1000 strokes	: + 1.0	+ Rated speed rpm : 1650 + guide sleeve + travel mm : 13.50 + Tolerance mm : + 0.50
Check tolerance cm3/1000s.	: + 4.0	
Spreed		+ GUIDE SLEEVE POSITION
Tolerance cm3/1000 strokes	: 5.0	control lever position degree : - 1 Rated speed rpm : 1450
Check tolerance cm3/1000s.	9.0	+ Rack travel in mm : 12.10 + Tolerance mm : + 1.50
Rated speed rpm	: 325	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm Tolerance mm Del. quantity		Rated speed rpm : 1200 Aneroid pressure hPa : 1200
cm3/1000 strokes Tolerance		Del. quantity + cm3/1000 strokes : 261.0
cm3/1000 strokes Check tolerance		+ Tolerance + cm3/1000 strokes : + 1.0
cm3/1000s. Spreed Tolerance	: ← 6.0	+ Check tolerance + cm3/1000s. : +- 4.0 + Spreed
cm3/1000 strokes Check tolerance	: 8.0	Tolerance cm3/1000 strokes : 5.0
cm3/1000s.	: 12.0	Check tolerance cm3/1000s. : 9.0
(B) SETTING OF INJ	JECTION PUMP	<u> </u>
WITH GOVERNOR		CONTROL LEVER
GUIDE SLEEVE TRAVE	EL	control lever position degree : 298.0
Rated speed rpm guide sleeve	: 1260	tolerance degree : + 4.0
travel mm	: 10.32 : + 0.15	RATED SPEED rack travel mm : -1.00 Rated speed rpm : 1245

Tolerance 1/min	: +- 5	+ Rated speed rpm : 1200
		+ rack travel mm : -3.20
rack travel mm		Tolerance mm : + 0.20
Rated speed rpm		MEACHDEMENT
Tolerance 1/min	: - 15	† MEASUREMENT
rack travel mm	: -12.90	Rated speed rpm : 1200
Tolerance mm		+ 1200
Rated speed rpm		+ Pressure hPa : 200
		+ rack travel mm : -2.40
		+ Tolerance mm : + 0.20
		† + Pressure hPa : 440
LOW IDLE		rack travel mm : -1.10
		+ Tolerance mm : + 0.05
		+
control lever		+ Start interlock
position degree		170
tolerance degree	: +- 4.0	+ Rated speed rpm :> 130
Testing:		+ Rated speed rpm : < 275
, 000 mg.		Check
Rated speed rom		speed 1/min : > 110
rack travel mm		+ Check
Tolerance mm	: +- 0.10	+ speed 1/min : < 285
Dated speed nom	: 225	<u> </u>
Rated speed rpm	. 223	+ FUEL DELIVERY CHARACTERISTICS
CRT mm min.	: < 7.40	TOEL PERIVER CHARACTERISTICS
••••		Aneroid pressure
Rated speed rpm	: 390	+ hPa : 1200
		+ Rated speed rpm : 850
TAROUE CONTROL		+ Del. quantity
TORQUE CONTROL		+ cm3/1000 strokes : 249.0 + Tolerance
Rated speed rpm	: 1200	+ cm3/1000 strokes : +- 3.0
Macca opeca (pii)	, 255	+ Check tolerance
Rated speed rpm		+ cm3/1000s. : +- 6.0
rack travel mm	: -1.00	
Tolerance mm	: +- 0.10	+ Aneroid pressure
 	. 700	+ hPa : - Rated speed rpm : 700
Rated speed rpm	: 700	+ Rated speed rpm : 700 + Del. quantity
Rated speed rpm rack travel mm Tolerance mm	: + 0.20	+ cm3/1000 strokes : 153.0
10fer with a line		+ Tolerance
Rated speed rpm	: 700	+ cm3/1000 strokes : +- 4.0
rack travel mm Tolerance mm	: -1.80	- Check tolerance
Tolerance mm	: +- 0.20	+ cm3/1000s. : +- 8.0
		Anonaid procesure
ANEROID/ALTITUDE		+ Aneroid pressure + hPa : -
COMPENSATOR TEST		Rated speed rpm : 1200
		† Del. quantity
		+ cm3/1000 strokes : 183.0
SETTING		+ Tolerance
	4200	+ cm3/1000 strokes : + 1.0
Rated speed rpm	: 1200 . 1200	+ Check tolerance
Pressure hPa	: 1200	$\frac{1}{1}$ cm3/1000s. : +- 4.0
Pressure hPa	· -	I
		T .

STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity

cm3/1000 strokes : 100.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

cm3/1000S.: + 19.0

LOW IDLE

Rated speed rpm 325

Del. quantity

cm3/1000 strokes : 33.0

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s.6.0

Spreed Tolerance

cm3/1000 strokes : 8.0

Check tolerance cm3/1000s.

12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 17.04.97

Test oil

: ISO 4113

Combination No. : 0 402 744 808

Injection pump

Pump designation : PES4P120A320RS7402

EP type number : 0 412 724 804

Governor

Governer design. : RQV275...1200PA1257

: 1K

Governer no.

: 0 421 815 553

Cust. part No. : CCEP5166 66-238

Customer-spec. information

Customer

: RENAULT V.I.

Motor

: MIDR 04-02-26 A4

Power KW

: 100.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Overflow quantity

min. L/h

: 125

Tolerance l/h: +- 20.0

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter:

3.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar :

Tolerance bar : + 1.0

Prestroke mm

5.10

Tolerance mm

: **←** 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 13.00

Tolerance mm : \leftarrow 0.50

Firing order : 1- 3- 4- 2

Phasing

: 0-90-180-270

Tolerance

: +- 0.30

Check

tolerance *NW

: +- 0.50

Start of delivery mark

*NW after s.o.d. : -10.30

: **←** 0.50

Tolerance Check

tolerance *NW

: +- 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

travel

21.00

and maximum rack

Difference * CS :

13.00 2.40

		+ Rated speed rpm : 325
	·····	+ guide sleeve
CRT ZERO POSITIO	N	+ travel mm : 1.52
	•	+ Tolerance mm : + 0.20
		1 occi di loc linir
Rack travel in m	m · 13 //0	Rated speed rpm : 938
Tolerance mm	: +- 0.05	+ guide sleeve
		+ travel mm : 6.86
		+ Tolerance mm : +- 0.25
BASIC SETTING		+
		+ Rated speed rpm : 550
Rated speed rpm	: 1200	+ guide sleeve
·		+ travel mm : 3.92
Del. quantity		+ Tolerance mm : + 0.25
cm3/1000 strokes	• 261.0	1 Total dilloc time
CHO TODO SCIONOS	. 201.0	Rated speed rpm : 1650
Tolonopo		
Tolerance	. 4.0	+ guide sleeve
cm3/1000 strokes	: +- 1.0	† travel mm : 13.50
-1 .		+ Tolerance mm : + 0.50
Check tolerance		+
cm3/1000s.	: 4.0	+
		+ GUIDE SLEEVE POSITION
Spreed		
- (a)		1
Tolerance		+ control lever
cm3/1000 strokes	. 50	
CIBS/1000 Strokes	: 5.0	position degree : - 1
		+ Rated speed rpm : 1450
Check tolerance		+
cm3/1000s.	: 9.0	+ Rack travel in mm : 12.40
		+ Tolerance mm : + 1.30
		+
Rated speed rpm	: 325	+ FULL LOAD DELIVERY AT FULL LOAD STOP
		The second desired with the second of the se
Rack travel in m	m · _2.00	+ Rated speed rpm : 1200
		· · ·
Tolerance mm	: 0.10	+ Aneroid pressure
Del. quantity		+ hPa : 1200
cm3/1000 strokes	: 33.0	+ Del. quantity
Tolerance		+ cm3/1000 strokes : 261.0
cm3/1000 strokes	: +- 2.0	+ Tolerance
Check tolerance		+ cm3/1000 strokes : +- 1.0
cm3/1000s.	: +- 6.0	+ Check tolerance
Spreed		+ cm3/1000s. : + 4.0
Tolerance		Spreed
	: 8.0	
cm:3/1000 strokes	; 0.0	† Tolerance
Check tolerance	40.0	+ cm3/1000 strokes : 5.0
cm3/1000s.	: 12.0	+ Check tolerance
		+ cm3/1000s. : 9.0
		+
(B) SETTING OF I	NJECTION PUMP	+
WITH GOVERNOR		
METH DOTEMINI		+ CONTROL LEVER
		T CONTINUE CEAEU
CLITATE OL EMINE TO 4.		T
GUIDE SLEEVE TRA	VEL	+ control lever
		+ position degree : 298.0
Rated speed rpm	: 1260	+ tolerance degree : + 4.0
guide sleeve		+
travel mm	: 10.32	+ RATED SPEED
Tolerance mm	: +- 0.15	+ rack travel mm : -1.00
		+ Rated speed rpm : 1245
		1 Marca speca (piii . 124)

Tolerance 1/min	: +- 5	+ Rated speed rpm : 1200
		rack travel mm : -3.20
rack travel mm		† Tolerance mm : + 0.20
Rated speed rpm		†
Tolerance 1/min	: ← 15	+ MEASUREMENT
rack travel mm	: -12.90	Dotad aread pro 1 1200
Tolerance mm		+ Rated speed rpm : 1200
Rated speed rpm		Pressure hPa : 200
The second of th		rack travel mm : -2.40
		Tolerance mm : +- 0.20
		+
LOUITNIC		Pressure hPa : 440
FOM IDE		+ rack travel mm : −1.10 + Tolerance mm : +- 0.05
		† Tolerance mm : +- 0.05
control lever		+ Start interlock
position degree		+
tolerance degree	: +- 4.0	Rated speed rpm : > 130
- .•		Rated speed rpm : < 275
Testing:		† Charle
Rated speed rpm	: 325	+ Check + speed 1/min :> 110
rack travel mm		- Speed (7/11/11 .) 110
Tolerance mm		+ speed 1/min : < 285
		+
Rated speed rpm	: 225	
COT mm mån	: < -7.40	+ FUEL DELIVERY CHARACTERISTICS
CRT mm min.	. < -7.40	Aneroid pressure
Rated speed rpm	: 390	+ hPa : 1200
		Rated speed rpm : 850
		+ Del. quantity
TORQUE CONTROL		+ cm3/1000 strokes : 249.0
Rated speed rpm	: 1200	+ Tolerance + cm3/1000 strokes : +- 3.0
Mateu specu i pili	• 1200	Check tolerance
Rated speed rpm	: 850	+ cm3/1000s. : +- 6.0
rack travel mm	-1.00	+
Tolerance mm	: + 0.10	+ Aneroid pressure
Datad anaad am	. 700	+ hPa : -
Rated speed rpm	: 700 : ~6.00	Rated speed rpm : 700 Del. quantity
rack travel mm Tolerance mm	; +- 0.20	+ cm3/1000 strokes : 153.0
. Josef en 1999 film	,	+ Tolerance
Rated speed rpm	: 700	+ cm3/1000 strokes : +- 4.0
rack travel mm Tolerance mm	: -1.80	+ Check tolerance
Tolerance mm	: +- 0.20	+ cm3/1000s. : +- 8.0
		Aneroid pressure
ANEROID/ALTITUDE		+ hPa : -
COMPENSATOR TEST		Rated speed rpm : 1200
		+ Del. quantity
		+ cm3/1000 strokes : 183.0
SETTING		Tolerance
Rated speed rpm	• 1200	+ cm3/1000 strokes : +- 1.0 + Check tolerance
Pressure hPa	: 1200	+ cm3/1000s. : +- 4.0
	· • • • • • • • • • • • • • • • • • • •	+
Pressure hPa	: -	+

STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity

cm3/1000 strokes : 100.0

Tolerance

cm3/1000 strokes : \leftarrow 15.0

Check tolerance

cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm 325

Del. quantity cm3/1000 strokes : 33.0

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s.6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s.12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.04.97
Test oil : ISO 4113

Combination No. : 0 402 846 302

Injection pump

Pump designation : PE6P12OA32ORS8520 EP type number : 0 412 826 202

Governor

Governer design. : RQV275...1000PA1269K

Governer no. : 0 421 815 969

Cust. part No. : 1310222/2

Customer-spec. information

Customer : DAF
Motor : XF 355 M
Power KW : 355.0

rower KW : 355.U

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.5

Tolerance bar : + 0.1

Overflow quantity

min. l/h : 113 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.85
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50 Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

Tolerance : \leftarrow 0.30

Check

tolerance $^{\circ}NW$: +- 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm: 14.05

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 344.0	† Tolerance mm : +- 0.50
Tolerance	GUIDE SLEEVE POSITION
cm3/1000 strokes : +- 1.0	Rated speed rpm : 1121
Check tolerance cm3/1000s. : +- 5.0	Rack travel in mm: 13.30
Spreed	+ Tolerance mm : +- 1.30
Tolerance cm3/1000 strokes : 6.0	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	Rated speed rpm : 980 Aneroid pressure
cm3/1000s. : 12.0	+ hPa : 1500 - + Del. quantity
	+ cm3/1000 strokes : 344.0 + Tolerance
Rated speed rpm : 275	+ cm3/1000 strokes : +- 1.0 + Check tolerance
Rack travel in mm : 4.50	+ cm3/1000s. : +- 5.0
Tolerance mm : +- 0.10	† Spreed
Del. quantity	+ Tolerance
cm3/1000 strokes : 18.0	+ cm3/1000 strokes : 6.0
Tolerance cm3/1000 strokes : +- 3.0	+ Check tolerance + cm3/1000S. : 12.0
cm3/1000 strokes : +- 3.0 Check tolerance	+ cm3/1000s. : 12.0
cm3/1000S. : + 6.0 Spreed	
Tolerance	CONTROL LEVER
cm3/1000 strokes : 8.0	- CONTINUE ELEVEN
Check tolerance	∔ control lever
cm3/1000s. : 13.0	position degree : 118.0
	tolerance degree : +- 4.0
(B) SETTING OF INJECTION PUMP	+ RATED SPEED
WITH GOVERNOR	rack travel mm : 13.05
	- Rated speed rpm : 1045
	- + Tolerance 1/min : + 5
GUIDE SLEEVE TRAVEL	+ Check
Rated speed rpm : 1058	+ speed 1/min : + 10
guide steeve	rack travel mm : 4.00
travel mm : 9.97	+ Rated speed rpm : 1140
Tolerance mm : ← 0.15	+ Tolerance 1/min : +- 15 + Check
Rated speed rpm : 275 guide sleeve	speed 1/min : +- 20
travel mm : 2.04	+ rack travel mm : 0.70
Tolerance mm : +- 0.20	+ Tolerance mm : $+$ 0.70
	Rated speed rpm : 1275
Rated speed rpm : 399	+
guide sleeve	†
travel mm : 3.39	†
Tolerance mm : + 0.25	I ON TOLE
Rated speed rpm : 1260	† LOW IDLE
Rated speed rpm : 1260 guide sleeve	I
travel mm : 13.50	1
5. 47.56 mm . 15.50	ı

		•
control lever position degree tolerance degree	: 73.0 : + 4.0	+ MEAS
Testing:		Pres
Rated speed rpm rack travel mm Tolerance mm	: 275 : 4.50 : ← 0.10	+ rack + Tole + Pres + rack
Rated speed rpm	: 175	+ Tole
CRT mm min.	: > 7.00	Star
Rated speed rpm	: 300	† —
TORQUE CONTROL		+ FUEL + Anei
Rated speed rpm rack travel mm Tolerance mm	: 980 : 14.05 : ← 0.05	+ hPa + Rate + Del. + cm3
Rated speed rpm rack travel mm Tolerance mm	: 800 : 14.05 : ← 0.10	+ Tole + cm3/ + Chec
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.80 : ← 0.05	+ Spre + Tole + cm3/
Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.40 : + 0.10	+ Aner
Rated speed rpm rack travel mm Tolerance mm	: 600 : 12.80 : + 0.10	+ Rate + Del + cm3/
Rated speed rpm rack travel mm Tolerance mm	: 500 : 12.45 : + 0.10	- cm3/
ANEROID/ALTITUDE COMPENSATOR TEST		+ Tole - cm3/ - Chec - cm3/
SETTING		Ī
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 980 : 1500 : 14.05 : ← 0.05	Low
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	980 9.00 + 0.10	Rate Del. cm3

: ::::::::::::::::::::::::::::::::::::	+- +-	38 10 0 75 36	50 2.80 3.05 30 3.30 3.15	os os	
: : : : : : : : : : : : : : : : : : :		75 12 0 38 10 0 75 36	50 2.80 3.09 30 3.30 3.19 5TIO	os os	
: : : : : : : : : : : : : : : : : : :		12 0 38 10 0 75 36	2.80 0.09 80 0.30 0.19 8TI0	os os	
: AC :		10 C RIS 75	00 00 01.0	os Os	
:		75 75 36	00 50 51.()	
:		75 75 36	00 50 51.()	
:		75 75 36	00 50 51.()	
•••••	+-	75 36	50 51.(
:	+-	75 36	50 51.(
:	+-	36	51.0		
:	+-				
:	+-		2.0)	
:	+-		۲.۱	j	
:					
	+		6.0)	
:		1	0.0)	
		1	5 (ו	
•		•	٠.٠	,	
			_		
:		60	0		
		10	00 (1	
•		,	7.0	,	
:	+-		1.0)	
:	+		5.0)	
:		1	0.0)	
:		1	٥.(J	
		:	: 1 : 60 : 19 : +- : +-	: 15.0 : - : 600 : 199.0 : + 1.0 : + 5.0 : 10.0	: 15.0 : - : 600 : 199.0

LOW IDLE

Rated speed rpm : 275
Del. quantity
cm3/1000 strokes : 18.0

Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 13.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.04.97 Test oil : ISO 4113

Combination No. : 0 403 436 111

Injection pump

Pump designation : PES6MW100/120RS1143

EP type number : 0 413 406 137

Governor

Governer design. : RQV350...1200MW82-6

Governer no. : 0 420 083 184

Cust. part No. : 3916000

Customer-spec. information

Customer : CUMMINS/US Motor : 6 CTA-830

Power KW : 186.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Tast nozzle holde

assembly : 1 688 901 017

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.20 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 10.00

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 12.35
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 141.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

		+ Rated speed rpm	: 1200
Check tolerance cm3/1000s.	: + 3.0	+ Aneroid pressure + hPa	: 700
		+ Del. quantity	
Spreed		cm3/1000 strokes	: 141.0
Tolerance		Tolerance cm3/1000 strokes	: + 1.0
cm3/1000 strokes	: 3.5	+ Check tolerance	: + 1.0
CIID/ 1000 Strokes	. 3.9	cm3/1000s.	: ← 3.0
Check tolerance		Spreed	5.0
cm3/1000s.	: 6.0	+ Tolerance	
		_ + cm3/1000 strokes	: 3.5
		+ Check tolerance	
Data di anno al mus	. 250	+ cm3/1000s.	: 6.0
Rated speed rpm	: 350	†	
Rack travel in mm	: 7.20	· I	
Tolerance mm	: +- 0.10	CONTROL LEVER	
Del. quantity		+	
cm3/1000 strokes	: 14.0	+ control lever	
Tolerance		position degree	: 98.0
cm3/1000 strokes	: + 2.0	+ tolerance degree	: + 4.0
Check tolerance		† n.==. an==.	
cm3/1000s.	: +- 4.0	+ RATED SPEED	. 44.70
Spreed Tolerance		rack travel mm Rated speed rpm	
cm3/1000 strokes	: 3.5	Tolerance 1/min	
Check tolerance	. 3.5	- Total and Think	• •
cm3/1000s.	: 5.5	+ rack travel mm	: 4.00
		+ Rated speed rpm	: 1385
.		† Tolerance 1/min	: + 15
(B) SETTING OF IN	JECTION PUMP	+	
WITH GOVERNOR		+ rack travel mm	: 0.50
		† Tolerance mm † Rated speed rpm	: + 0.50 : 1455
GUIDE SLEEVE TRAV	EL	Nated speed 1 pill	. 1422
Rated speed rpm	: 1250	I	
guide sleeve	. 1230		
travel mm	: 7.70	LOW IDLE	
Tolerance mm	: +- 0.10	+	
man and a	320	†	
Rated speed rpm	: 350	+ control lever	
guide sleeve travel mm	: 1.40	+ position degree + tolerance degree	
Tolerance mm	: +- 0.20	T coterance degree	; - 4.0
TOCCI WITE HILL	0.20	Testing:	
Rated speed rpm	: 800	+	
guide sleeve		Rated speed rpm	: 350
travel mm	: 5.20	+ rack travel mm	: 7.20
Tolerance mm	: +- 0.30	+ Tolerance mm	: ← 0.10
Detect enced enc	. 1750	t Doted and man	. 100
Rated speed rpm guide sleeve	: 1350	Rated speed rpm	: 100
travel mm	: 8.80	CRT mm min.	: > 9.00
Tolerance mm	: + 0.20	-	7.00
×		Rated speed rpm	: 430
		+	
FULL LOAD DELIVERY	Y AT FULL LOAD STOP	TOPOLIE CONTROL	

TORQUE CONTROL

Rated speed rpm rack travel mm Tolerance mm	: 1200 : 12.35 : ← 0.05	+ Aneroid pressure + hPa : 700 + Rated speed rpm : 750 + Del. quantity + cm3/1000 strokes : 145.5
Rated speed rpm rack travel mm Tolerance mm		Tolerance cm3/1000 strokes : 143.3 cm3/1000 strokes : + 1.5 Check tolerance
Rated speed rpm rack travel mm	: 1000	cm3/1000s. : + 4.0 + Spreed + Tolerance
Tolerance mm	: +- 0.10	cm3/1000 strokes : 5.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 900 : 12.70 : +- 0.10	cm3/1000s. : 7.0 Aneroid pressure
		+ hPa : -
ANEROID/ALTITUDE COMPENSATOR TEST		Del. quantity cm3/1000 strokes : 112.0
SETTING		+ Tolerance + cm3/1000 strokes : +~ 1.0
Rated speed rpm	: 500	+ Check tolerance + cm3/1000s. : + 3.0
Pressure hPa	; -	Ŧ
rack travel mm Tolerance mm	: 11.35 : + 0.05	STARTING FUEL DELIVERY
Pressure hPa Rated speed rpm rack travel mm Tolerance mm		Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 215.0 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance
Rated speed rpm	: 500	+ cm3/1000s. : +- 13.0 +
Pressure hPa rack travel mm Tolerance mm	: 700 : 13.05 : +- 0.05	LOW IDLE
Pressure hPa rack travel mm Tolerance mm	: 480 : 12.15 : + 0.15	Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 14.0
Start interlock		+ Tolerance + cm3/1000 strokes : +- 2.0
Rated speed rpm Rated speed rpm		Check tolerance cm3/1600s. : + 4.0 Spreed
Check speed 1/min	: > 80	Tolerance cm3/1000 strokes : 3.5 Check tolerance
Check speed 1/min	: < 240	+ cm3/1000s. : 5.5
FUEL DELIVERY CHA	RACTERISTICS	

End of test specification sheet

c15

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 28.04.97 Test oil : ISO 4113 Combination No. : 9 400 087 462

Injection pump

Pump designation : PES5P120A720LS7175

: 0

EP type number : 0 412 725 816

Governor

Governer design. : RQ300/1050PA774-7 Governer no. : 9 420 080 316

Cust. part No. : 0150740502

Customer-spec. information Customer : MBB Motor : OM449 LA Power KW : 220.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.3

Overflow quantity

min. L/h : 110 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288
Tolerance : +- 0.50

Check

tolerance "NW : +- 0.75

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 13.70 Tolerance mm : + 0.10

Del. quantity cm3/1000 strokes : 235.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : + 4.0

Connect	+
Spreed	GUIDE SLEEVE POSITION
Tolerance cm3/1000 strokes : 5.0	‡
Check tolerance	+ control lever + position degree : 109
cm3/1000s. : 9.0	Rated speed rpm : 600
	Rack travel in mm : 20.00
Rated speed rpm : 300	+ Tolerance mm : + 0.80
Rack travel in mm: 5.70	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : + 0.10	+
Del. quantity cm3/1000 strokes : 14.0	+ Rated speed rpm : 600
Tolerance	+ Aneroid pressure + hPa : 850
cm3/1000 strokes : +- 3.0	Del. quantity
Check tolerance	+ cm3/1000 strokes : 235.0
cm3/1000s. : +- 6.0	+ Tolerance
Spreed Tolerance	+ cm3/1000 strokes : +- 1.0 + Check tolerance
cm3/1000 strokes : 8.0	+ cm3/1000s. : +- 4.0
Check tolerance	Spreed
cm3/1000s. : 12.0	† Tolerance
	+ cm3/1000 strokes : 5.0
(B) SETTING OF INJECTION PUMP	+ Check tolerance + cm3/1000s. : 9.0
WITH GOVERNOR	T CIII37 10003 9.0
	†
GUIDE SLEEVE TRAVEL	CONTROL LEVER
Rated speed rpm : 1100	CONTROL LEVER control lever
Rated speed rpm : 1100 guide sleeve	control lever position degree : 37.0
Rated speed rpm : 1100 guide sleeve travel mm : 7.00	control lever
Rated speed rpm : 1100 guide sleeve	control lever position degree : 37.0 tolerance degree : + 4.0
Rated speed rpm : 1100 guide sleeve travel mm : 7.00 Tolerance mm : + 0.20	control lever position degree : 37.0 tolerance degree : + 4.0 control lever
Rated speed rpm : 1100 guide sleeve travel mm : 7.00 Tolerance mm : + 0.20 Rated speed rpm : 300 guide sleeve	control lever position degree : 37.0 tolerance degree : +- 4.0 control lever
Rated speed rpm : 1100 guide sleeve travel mm : 7.00 Tolerance mm : + 0.20 Rated speed rpm : 300 guide sleeve travel mm : 3.00	control lever position degree : 37.0 tolerance degree : +- 4.0 control lever position degree : 99.0 tolerance degree : +- 4.0
Rated speed rpm : 1100 guide sleeve travel mm : 7.00 Tolerance mm : + 0.20 Rated speed rpm : 300 guide sleeve	control lever position degree : 37.0 tolerance degree : + 4.0 control lever position degree : 99.0 tolerance degree : + 4.0 RATED SPEED
Rated speed rpm : 1100 guide sleeve travel mm : 7.00 Tolerance mm : + 0.20 Rated speed rpm : 300 guide sleeve travel mm : 3.00 Tolerance mm : + 0.10	control lever position degree : 37.0 tolerance degree : + 4.0 control lever position degree : 99.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.70
Rated speed rpm : 1100 guide sleeve travel mm : 7.00 Tolerance mm : + 0.20 Rated speed rpm : 300 guide sleeve travel mm : 3.00 Tolerance mm : + 0.10 Rated speed rpm : 600 guide sleeve	control lever position degree : 37.0 tolerance degree : + 4.0 control lever position degree : 99.0 tolerance degree : + 4.0 RATED SPEED
Rated speed rpm : 1100 guide sleeve travel mm : 7.00 Tolerance mm : + 0.20 Rated speed rpm : 300 guide sleeve travel mm : 3.00 Tolerance mm : + 0.10 Rated speed rpm : 600 guide sleeve travel mm : 6.00	control lever position degree : 37.0 tolerance degree : + 4.0 control lever position degree : 99.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.70 Rated speed rpm : 1103 Tolerance 1/min : + 8
Rated speed rpm : 1100 guide sleeve travel mm : 7.00 Tolerance mm : + 0.20 Rated speed rpm : 300 guide sleeve travel mm : 3.00 Tolerance mm : + 0.10 Rated speed rpm : 600 guide sleeve	control lever position degree : 37.0 tolerance degree : + 4.0 control lever position degree : 99.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.70 Rated speed rpm : 1103 Tolerance 1/min : + 8 rack travel mm : 4.00
Rated speed rpm : 1100 guide sleeve travel mm : 7.00 Tolerance mm : + 0.20 Rated speed rpm : 300 guide sleeve travel mm : 3.00 Tolerance mm : + 0.10 Rated speed rpm : 600 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 6.00 Tolerance mm : + 0.10	control lever position degree : 37.0 tolerance degree : + 4.0 control lever position degree : 99.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.70 Rated speed rpm : 1103 Tolerance 1/min : + 8
Rated speed rpm : 1100 guide sleeve travel mm : 7.00 Tolerance mm : + 0.20 Rated speed rpm : 300 guide sleeve travel mm : 3.00 Tolerance mm : + 0.10 Rated speed rpm : 600 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10	control lever position degree : 37.0 tolerance degree : + 4.0 control lever position degree : 99.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.70 Rated speed rpm : 1103 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1180
Rated speed rpm : 1100 guide sleeve travel mm : 7.00 Tolerance mm : + 0.20 Rated speed rpm : 300 guide sleeve travel mm : 3.00 Tolerance mm : + 0.10 Rated speed rpm : 600 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 6.00 Tolerance mm : + 0.10	control lever position degree : 37.0 tolerance degree : + 4.0 control lever position degree : 99.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.70 Rated speed rpm : 1103 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75
Rated speed rpm : 1100 guide sleeve travel mm : 7.00 Tolerance mm : + 0.20 Rated speed rpm : 300 guide sleeve travel mm : 3.00 Tolerance mm : + 0.10 Rated speed rpm : 600 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.65 Tolerance mm : + 0.15 Rated speed rpm : 150	control lever position degree : 37.0 tolerance degree : + 4.0 control lever position degree : 99.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.70 Rated speed rpm : 1103 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15 rack travel mm : 0.75
Rated speed rpm : 1100 guide sleeve travel mm : 7.00 Tolerance mm : + 0.20 Rated speed rpm : 300 guide sleeve travel mm : 3.00 Tolerance mm : + 0.10 Rated speed rpm : 600 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 6.65 Tolerance mm : + 0.15 Rated speed rpm : 150 guide sleeve travel mm : 6.65 Tolerance mm : + 0.15	control lever position degree : 37.0 tolerance degree : + 4.0 control lever position degree : 99.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.70 Rated speed rpm : 1103 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75
Rated speed rpm : 1100 guide sleeve travel mm : 7.00 Tolerance mm : + 0.20 Rated speed rpm : 300 guide sleeve travel mm : 3.00 Tolerance mm : + 0.10 Rated speed rpm : 600 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.65 Tolerance mm : + 0.15 Rated speed rpm : 150	control lever position degree : 37.0 tolerance degree : + 4.0 control lever position degree : 99.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.70 Rated speed rpm : 1103 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75

control lever		+ rack travel mm : 0.25 + Tolerance mm : +- 0.05
position degree tolerance degree control lever	: 75.0 : +- 4.0	+ Pressure hPa : 1240 + rack travel mm : 0.60 + Tolerance mm : + 0.10
position degree tolerance degree	: 12.0 : +- 4.0	Start interlock
Testing:		Rated speed rpm : > 100 Rated speed rpm : < 220
Rated speed rpm rack travel mm Tolerance mm	: 300 : 5.70 : + 0.10	Check speed 1/min : > 80
rack travel mm Rated speed rpm Tolerance 1/min	: 385	Check speed 1/min : < 240
Rated speed rpm		FUEL DELIVERY CHARACTERISTICS
	: > 8.50	Aneroid pressure hPa : 1400 Rated speed rpm : 1050
TORQUE CONTROL		+ Del. quantity + cm3/1000 strokes : 232.5 + Tolerance
Rated speed rpm rack travel mm		cm3/1000 strokes : +- 1.5 Check tolerance
Tolerance mm	: + 0.10	cm3/1000s. : +- 4.5 Spreed
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 13.80 : - 0.10	+ Tolerance + cm3/1000 strokes : 8.0 + Check tolerance
Rated speed rpm		cm3/1000s. : 12.0
rack travel mm Tolerance mm	: 14.60	Aneroid pressure hPa : 1400 Rated speed rpm : 750
ANEROID/ALTITUDE COMPENSATOR TEST		<pre>+ Del. quantity + cm3/1000 strokes : 253.5 + Tolerance + cm3/1000 strokes : +- 2.0</pre>
2-stage LDA sett	ina	+ Check tolerance + cm3/1000s. : ← 5.0 + Spreed
Rated speed rpm	: 600	Tolerance + cm3/1000 strokes : 8.0
Pressure hPa MEASUREMENT	: 850	Check tolerance cm3/1000s. : 12.0
Pressure hPa	: 340	Aneroid pressure
rack travel mm Tolerance mm	: -3.20 : +- 0.10	+ Rated speed rpm : 500 + Del. quantity + cm3/1000 strokes : 126.0
Pressure hPa rack travel mm	: 600 : -1.10	Tolerance + cm3/1000 strokes : +- 1.0
Tolerance mm Pressure hPa	: +- 0.10 : 1160	+ Check tolerance + cm3/1000s. : +- 4.0 + Spreed
<u> </u>		t to the second

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity cm3/1000 strokes : 234.5

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : +- 14.0

LOW IDLE

Rated speed rpm : 300

Del. quantity

cm3/1000 strokes : 14.0

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s. 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 28.04.97 Test oil : ISO 4113

Combination No. : 9 400 087 506

Injection pump

Pump designation : PES6P120A320/3RS3365

EP type number : 9 400 087 092

Governor

Governer design. : RSV450...900P7A628

Governer no. : 9 420 082 333

Cust. part No. : 3356095

Customer-spec. information Customer : CUMMINS Motor : 6CTAAG Power KW : 240.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.3
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.40
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery blocking

*NW after s.o.d. : 7.50 Tolerance : + 0.10

Check

tolerance $^{\circ}NW$: +- 0.23

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 11.85

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 264.0

 +	Del. quantity
Tolerance	cm3/1000 strokes : 264.0
cm3/1000 strokes : + 1.0 +	Tolerance
	cm3/1000 strokes : +- 1.0
Check tolerance	Check tolerance
cm3/1000s. : +- 4.0	cm3/1000s. : + 4.0
Spreed	Spreed Tolerance
obileed	cm3/1000 strokes : 5.0
Tolerance	Check tolerance
cm3/1000 strokes : 5.0	cm3/1000s. : 9.0
Check tolerance	
cm3/1000s. : 9.0	CONTROL LEVED
	CONTROL LEVER
· 1	control lever
Rated speed rpm : 450	position degree : 61.0
1,4164 35664 15111 . 136	tolerance degree : +- 4.0
Rack travel in mm: 4.50	total diloc degree
Tolerance mm : + 0.10	control lever
Del. quantity	position degree : 111.0
cm3/1000 strokes : 18.0	tolerance degree : +- 4.0
Tolerance +	
cm3/1000 strokes : + 3.0 +	
Check tolerance	ASSEMBLY GOVERNOR SETTING
cm3/1000s. : + 6.0 +	
Spreed	Raced speed rpm : 959
Tolerance	rack travel mm : 10.80
cm3/1000 strokes : 8.0	Dated aread num
Check tolerance + cm3/1000s. : 12.0 +	Rated speed rpm : 999 Tolerance 1/min : +- 4
tilis/ 10003. : 12.0 I	Tolerance 1/min : +- 4 rack travel mm; : 4.00
I	: ack (lavet limi) . 4.00
(B) SETTING OF INJECTION PUMP	rack travel mm : 0.50
WITH GOVERNOR	Tolerance mm : + 0.50
+	Rated speed rpm : 1030
+	
GUIDE SLEEVE POSITION	Rated speed rpm : 960 rack travel mm : 10.80
†	rack travel mm : 10.80
control lever	Rated speed rpm : 1000
position degree : - 3	Tolerance 1/min : +- 4
Rated speed rpm : 800	rack travel mm : 4.00
Hated opeca ipm	Tuest Characture . Trop
Rack travel in mm : 0.50	rack travel mm : 0.50
Tolerance mm : + 0.20	Tolerance mm : +- 0.50
+	Rated speed rpm : 1030
governor spring +	
pre-tension +	
click setting x : 5.75	Rated speed rpm : 961
†	rack travel mm : 10.80
FILL LOAD DELTUEDY AT FULL LOAD CTOD	Detect aread area 4004
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 1001
Rated speed rpm : 900	Tolerance 1/min : +- 4 rack travel mm : 4.00
Aneroid pressure	rack travet mm : 4.00
hPa : -	rack travel mm : 0.50
· · · · · · · · · · · · · · · · · · ·	Tolerance mm : +- 0.50
· •	To the writer time to the terms of the terms

Rated speed rpm : 1030	+ Tolerance mm : +- 0.10
	†
	rack travel mm : 2.00
Rated speed rpm : 962	Rated speed rpm : 485
rack travel mm : 10.80	+ Tolerance 1/min : + 30
	1
Rated speed rpm : 1002	Rated speed rpm : 100
	+ Rated speed rpm : 100
Tolerance 1/min : +- 4	+
rack travel mm : 4.00	<pre>→ CRT mm min. : > 19.00</pre>
	+
rack travel mm : 0.50	
	TORQUE CONTROL
	T TORQUE CONTROL
Rated speed rpm : 1030	+
	+ Rated speed rpm : 900
	rack travel mm : 11.85
Rated speed rpm : 963	Tolerance mm : + 0.05
rack travel mm : 10.80	†
	+ Rated speed rpm : 550
Rated speed rpm : 1003	† rack travel mm : 11.85
Tolerance 1/min : +- 4	+ Tolerance mm : +- 0.05
rack travel mm : 4.00	1
AND FERVER HIST . HAUD	Ţ
	T
rack travel mm : 0.50	+ Start interlock
Tolerance mm : +- 0.50	+
Rated speed rpm : 1030	1
(1900 abcon . b.ii	\perp
D to d d	Ť
Rated speed rpm : 964	
rack travel mm : 10.80	+ STARTING FUEL DELIVERY
	+
Rated speed rpm : 1004	+ Rated speed rpm : 100
	I rack thavel may 20 00
Tolerance 1/min : + 4	rack travel mm : 20.00
	rack travel mm : 20.00 Tolerance mm : +- 1.00
Tolerance 1/min : +- 4 rack travel mm : 4.00	rack travel mm : 20.00 Tolerance mm : +- 1.00 Del. quantity
Tolerance 1/min : +- 4 rack travel mm : 4.00	+ rack travel ma : 20.00
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE control lever position degree : 81.0	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE control lever position degree : 81.0 tolerance degree : + 4.0	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 450
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE control lever position degree : 81.0	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 450
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE control lever position degree : 81.0 tolerance degree : + 4.0 control lever	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 450 Del. quantity
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE control lever position degree : 81.0 tolerance degree : + 4.0 control lever position degree : 31.0	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 450 Del. quantity cm3/1000 strokes : 18.0
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE control lever position degree : 81.0 tolerance degree : + 4.0 control lever	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 450 Del. quantity cm3/1000 strokes : 18.0 Tolerance
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE control lever position degree : 81.0 tolerance degree : + 4.0 control lever position degree : 31.0 tolerance degree : + 4.0	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 450 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE control lever position degree : 81.0 tolerance degree : + 4.0 control lever position degree : 31.0	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 450 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE control lever position degree : 81.0 tolerance degree : + 4.0 control lever position degree : 31.0 tolerance degree : + 4.0	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 450 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE control lever position degree : 81.0 tolerance degree : + 4.0 control lever position degree : 31.0 tolerance degree : + 4.0 Setting point w/out bumper spring	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 450 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE control lever position degree : 81.0 tolerance degree : + 4.0 control lever position degree : 31.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 450	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 450 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE control lever position degree : 81.0 tolerance degree : + 4.0 control lever position degree : 31.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 4.00	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 450 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE control lever position degree : 81.0 tolerance degree : + 4.0 control lever position degree : 31.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 450	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 450 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE control lever position degree : 81.0 tolerance degree : + 4.0 control lever position degree : 31.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 4.00	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 450 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE control lever position degree : ** 4.0 control lever position degree : ** 4.0 control lever position degree : ** 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 4.00 Tolerance mm : ** 4.00 Tolerance mm : ** 4.00	Tack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 450 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE control lever position degree : 81.0 tolerance degree : + 4.0 control lever position degree : 31.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 4.00	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 450 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE control lever position degree : ** 4.0 control lever position degree : ** 4.0 control lever position degree : ** 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 4.00 Tolerance mm : ** 4.00 Tolerance mm : ** 4.00 Testing:	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 450 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1030 LOW IDLE control lever position degree : 81.0 tolerance degree : + 4.0 control lever position degree : 31.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 4.00 Tolerance mm : + 0.10	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 450 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 28.04.97 Test oil : ISO 4113

Combination No. : 0 400 463 123

Injection pump

Pump designation : PES3A80D410/3RS1324

EP type number : 0 410 483 017

Governor

Governer design. : RSV325...1150A8C275L

Governer no. : 0 420 232 305

Cust. part No. :

Customer-spec. information

Customer : KHD

Motor : F3L912

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : **←** 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Prestroke mm : 1.95 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1- 3- 2

Phasing : 0-120-240

Tolerance : +- 0.50

Chack

tolerance °NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 10.65

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 50.5

Tolerance

cm3/1000 strokes : +-0.5

Check tolerance cm3/1000s. : +-

2.0

Spreed

Tolerance

cm3/1000 strokes : 2.5

Check tolerance cm3/1000S. : 4.0	
	- CONTROL LEVER
<u>†</u>	•
Poted around arm a 725	control lever
Rated speed rpm : 325	- position degree : 105.0 - tolerance degree : +- 4.0
Rack travel in mm: 8.60	- toterance degree : +- 4.0
Tolerance mm : + 0.10	- RATED SPEED
Del. quantity	rack travel mm : 9.60
cm3/1000 strokes : 12.0	- Rated speed rpm : 1195
Tolerance	- Tolerance 1/min : +- 5
cm3/1000 strokes : + 1.5 +	•
Check tolerance	rack travel mm : 4.00
cm3/1000s. : + 3.5	Rated speed rpm : 1235
Spreed + Tolerance +	- Tolerance 1/min : +- 15
cm3/1000 strokes : 4.0	rack travel mm : 1.00
Check tolerance	Tolerance mm : +- 0.70
cm3/1000S. : 6.0	- Rated speed rpm : 1350
<u> </u>	•
+	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	- Rated speed rpm : 1240
WITH GOVERNOR +	•
†	•
GUIDE SLEEVE TRAVEL	
GOIDE GLEEVE TRAVEL	- LOW IDLE
Dimension a mm : 1.30	- FOR TALE
+	-
	- control lever
GUIDE SLEEVE POSITION +	- position degree : 70.0
†	tolerance degree : +- 4.0
control lever	· · · · · · · · · · · · · · · · · · ·
position degree : -3	- Setting point w/out bumper spring
Rated speed rpm : 800	
Traces special pill	- Rated speed rom · 325
	- Rated speed rpm : 325 - rack travel mm : 3.10
Rack travel in mm: 0.65	- rack travel mm : 3.10
Rack travel in mm: 0.65 Tolerance mm: + 0.35	- rack travel mm : 3.16 - Tolerance mm : +- 0.10
	- rack travel mm : 3.10
Tolerance mm : +- 0.35	- rack travel mm : 3.16 - Tolerance mm : +- 0.10 - - Testing:
	- rack travel mm : 8.16 - Tolerance mm : +- 0.10 - Testing: - Rated speed rpm : 325
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 8.10 Tolerance mm : +- 0.10 Testing: Rated speed rpm : 325 rack travel mm : 8.60
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150	- rack travel mm : 8.16 - Tolerance mm : +- 0.10 - Testing: - Rated speed rpm : 325
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure	rack travel mm : 8.16 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 8.60 Tolerance mm : + 0.10
Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : -	rack travel mm : 8.16 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 8.60 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure	rack travel mm : 8.10 Tolerance mm : +- 0.10 Testing: Rated speed rpm : 325 rack travel mm : 8.60
Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 50.5 Tolerance	rack travel mm : 8.16 Tolerance mm : + 0.10 Testing: Rated spaed rpm : 325 rack travel mm : 8.60 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 680
Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 50.5 Tolerance cm3/1000 strokes : +- 0.5	rack travel mm : 8.16 Tolerance mm : +- 0.10 Testing: Rated speed rpm : 325 rack travel mm : 8.60 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : +- 30
Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 50.5 Tolerance cm3/1000 strokes : +- 0.5 Check tolerance	rack travel mm : 8.16 Tolerance mm : + 0.10 Testing: Rated spaed rpm : 325 rack travel mm : 8.60 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 680
Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 50.5 Tolerance cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 2.0	rack travel mm : 3.16 Tolerance mm : +- 0.10 Testing: Rated speed rpm : 325 rack travel mm : 8.60 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : +- 30 TORQUE CONTROL
Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 50.5 Tolerance cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. : +- 2.0 Spreed	rack travel mm : 3.16 Tolerance mm : +- 0.10 Testing: Rated speed rpm : 325 rack travel mm : 8.60 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : +- 30 TORQUE CONTROL Rated speed rpm : 1150
Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : - Bel. quantity cm3/1000 strokes : 50.5 Tolerance cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. : +- 2.0 Spreed Tolerance	- rack travel mm : 3.16 - Tolerance mm : +- 0.10 - Testing: - Rated speed rpm : 325 - rack travel mm : 8.60 - Tolerance mm : +- 0.10 - rack travel mm : 2.00 - Rated speed rpm : 680 - Tolerance 1/min : +- 30 - TORQUE CONTROL - Rated speed rpm : 1150 - rack travel mm : 10.65
Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 50.5 Tolerance cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. : +- 2.0 Spreed Tolerance cm3/1000 strokes : 2.5	rack travel mm : 3.16 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 8.60 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1150 rack travel mm : 10.65 Tolerance mm : + 0.05
Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 50.5 Tolerance cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. : +- 2.0 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance	rack travel mm : 3.16 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 8.60 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1150 rack travel mm : 10.65 Tolerance mm : + 0.05
Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 50.5 Tolerance cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. : +- 2.0 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance	- rack travel mm : 3.16 - Tolerance mm : +- 0.10 - Testing: - Rated speed rpm : 325 - rack travel mm : 8.60 - Tolerance mm : +- 0.10 - rack travel mm : 2.00 - Rated speed rpm : 680 - Tolerance 1/min : +- 30 - TORQUE CONTROL - Rated speed rpm : 1150 - rack travel mm : 10.65

008 Rated speed rpm 11.35 rack travel mm Tolerance mm : + 0.15

Start interlock

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 20.50 : Tolerance mm : +- 1.00

Del. quantity

cm3/1000 strokes : 125.0

Tolerance

cm3/1000 strokes : + 7.5

Check tolerance

cm3/1000s. : +- 10.0

LOW IDLE

325 Rated speed rpm

Del. quantity

12.0 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : +-1.5

Check tolerance

3.5 cm3/1000s.

Spreed

Tolerance

4.0 cm3/1000 strokes :

Check tolerance

cm3/1000s. 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 25.01.97 Edition Test oil : ISO 4113

Combination No. : 0 400 463 125

Injection pump

Pump designation : PES3A80D410/3RS1324

EP type number : 0 410 483 017

Governor

Governer design. : RSV325...1400A8C495L

Governer no. : 0 420 232 302

Cust. part No.

Customer-spec. information

Customer : KHD : F3L912 Motor

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 1.95 Prestroke mm Tolerance min : → 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1- 3- 2

Phasing : 0-120-240 : + 0.50 Tolerance

Check

tolerance $^{\circ}NW$: + 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 10.20 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 50.5

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s.: +- 2.0

Spreed

Tolerance

cm3/1000 strokes : 2.5

Rated speed rpm : 325 Rack travel in mm : 9.00 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 13.0 Tolerance m3/1000 strokes : + 1.5 Check tolerance cm3/1000 strokes : 4.0 CDIDE SLEEVE POSITION CONTROL LEVER Rated speed rpm : 325 RATED SPEED rack travel mm : 9.20 Rated speed rpm : 1445 Tolerance 1/min : + 5 Pack travel mm : 4.00 Rated speed rpm : 1485 Tolerance 1/min : + 15 Rated speed rpm : 1485 Tolerance mm : + 0.55 Tolerance mm : + 0.55 Rated speed rpm : 1700 rack travel mm : 4.00 Rated speed rpm : 1700 rack travel mm : 4.00 Rated speed rpm : 1700 rack travel mm : 4.00 Rated speed rpm : 1535 CONTROL LEVER RATED SPEED rack travel mm : 9.20 Rated speed rpm : 1445 Tolerance 1/min : + 15 rack travel mm : 4.00 Rated speed rpm : 1535 RATED SPEED rack travel mm : 9.20 Rated speed rpm : 1485 Tolerance 1/min : + 15 rack travel mm : 4.00 Rated speed rpm : 1535 RATED SPEED Rated speed rpm : 1485 Tolerance mm : + 0.50 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 Rated speed rpm : 500 Rated speed rpm : 900 Rated spee	Check tolerance cm3/1000s. : 4.0	control lever position degree : 119.0 tolerance degree : + 4.0
Rated travel in mm : 9.00 Tolerance mm : + 0.10 Pol. quantity cm3/1000 strokes : 13.0 Tolerance 1/min : + 0.5 Tolerance 1/min : + 0.5 Tolerance 1/min : + 0.5 Tolerance 1/min : + 15 Tolerance 1/min : + 10.55 Tolerance 1/min : + 10.10 T	Rated speed rpm : 325	
m3/1000 strokes: 13.0 Tolerance cm3/1000 strokes: + 1.5 Check tolerance cm3/1000s. : + 3.5 Spreed Tolerance cm3/1000s. : + 3.5 Spreed Tolerance cm3/1000s. : + 0.0 Tolerance cm3/1000s. : + 0.5 Spreed Tolerance cm3/1000s. : - 0.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION GUIDE SLEEVE POSITION Control lever position degree : 72.0 tolerance degree : + 4.0 Control lever position degree : 72.0 tolerance degree : + 4.0 Control lever position degree : 72.0 tolerance degree : + 4.0 Control lever position degree : 72.0 tolerance degree : + 4.0 Control lever position degree : 72.0 tolerance degree : + 4.0 Control lever position degree : 72.0 tolerance degree : + 4.0 Control lever position degree : 72.0 tolerance degree : + 4.0 Tolerance mm : + 0.20 Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 9.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 700 Tolerance mm : + 0.10 Testing: Rated speed rpm : 700 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 2.00 Rated speed rpm : 700 Tolerance mm : + 0.10 Tolerance mm : + 0.10 Rated speed rpm : 1400 Rated speed rpm : 1400 Rated speed rpm : 1400 rack travel mm : 10.20 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.55 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.55 Tolerance mm : + 0.05	Tolerance mm : + 0.10	Rated speed rpm : 1445
Check tolerance cm3/1000s. : + 3.5 rack travel mm : 0.85 Spreed 70Lerance mm : + 0.55 Rated speed rpm : 1700 Check tolerance cm3/1000s. : 6.0 rack travel mm : 4.00 Rated speed rpm : 1535 (B) SETTING OF INJECTION PUMP WITH GOVERNOR LOW IDLE control lever position degree reposition degree : 72.0 tolerance degree : + 4.0 control lever position degree : 72.0 tolerance degree : + 4.0 Rated speed rpm : 800 Rated speed rpm : 325 rack travel mm / 2.50 rack travel mm : 8.50 Tolerance mm : + 0.20 Tolerance mm : + 0.10 Testing: FULL LOAD DELIVERY AT FULL LOAD STOP Aneroid pressure life a : - bel. quantity cm3/1000 strokes : 50.5 Rated speed rpm : 325 rack travel mm : 9.00 Tolerance mm : + 0.10 Foll-quantity cm3/1000 strokes : - 0.5 Check tolerance cm3/1000 strokes : - 2.0 Rated speed rpm : 700 Tolerance 1/min : + 30 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s : + 2.0 Rated speed rpm : 1400 rack travel mm : 10.20 Tolerance mm : + 0.05 CONTROL LEVER Rated speed rpm : 500 rack travel mm : 11.55 Tolerance mm : + 0.05 Rated speed rpm : 955	cm3/1000 strokes : 13.0 Tolerance	Rated speed rpm : 1485
Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 6.0 Control lever position degree : -3 Rated speed rpm : 800 Rated speed rpm : 800 Rated speed rpm : 8.50 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10 Tolerance cm3/1000 strokes : 50.5 Check tolerance cm3/1000s. : + 2.0 Tolerance mm : + 0.05 Rated speed rpm : 2.00 Rated speed rpm : 700 Tolerance mm : + 0.10 Tolerance mm : + 0.10 Tolerance mm : + 0.50 Rated speed rpm : 325 rack travel mm : 9.00 Tolerance mm : + 0.10 Tolerance mm : + 0.05 Tol	Check tolerance	rack travel mm : 0.85
Check tolerance cm3/1000s.	Tolerance	
## CONTROL LEVER GUIDE SLEEVE POSITION GUIDE SLEEVE POSITION Control lever position degree : 72.0 tolerance degree : + 4.0 Satting point w/cut bumper spring Rated speed rpm : 800 Rated speed rpm : 8.50 Tolerance mm : + 0.20 Testing: Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 9.00 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 50.5 Tolerance cm3/1000 strokes : + 0.5 Check tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s : 4.0 Rated speed rpm : 1400 rack travel mm : 2.00 Rated speed rpm : 700 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1400 rack travel mm : 10.20 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.55 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.55 Tolerance mm : + 0.05	Check tolerance	
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1400 Aneroid pressure hFa : - Del. quantity cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s : + 2.0 CONTROL LEVER ROUTOLE ver position degree : 72.0 tolerance degree : + 4.0 Satting point w/cut bumper spring Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 9.00 Tolerance mm : + 0.10 Tolerance mm : + 0.10 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1400 rack travel mm : 10.20 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1400 rack travel mm : 10.20 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.55 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.55 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.55 Tolerance mm : + 0.05		<u> </u>
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 Rated speed rpm : 1400 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 50.5 Tolerance cm3/1000s. : + 2.0 Spreed Tolerance cm3/1000s. : 4.0 Rated speed rpm : 1400 Tolerance mm : 4.00 Tolerance mm : 4.00 Rated speed rpm : 1400 Tolerance mm : 4.00 Rated speed rpm : 1400 Tolerance mm : 4.00 Rated speed rpm : 500 Tolerance mm : 4.005 Rated speed rpm : 500 Tolerance mm : 4.005 Rated speed rpm : 500 Tolerance mm : 4.005 Rated speed rpm : 500 Tolerance mm : 4.005 Rated speed rpm : 500 Tolerance mm : 4.005 Rated speed rpm : 500 Tolerance mm : 4.005 Rated speed rpm : 500 Tolerance mm : 4.005 Rated speed rpm : 500 Tolerance mm : 4.005 Rated speed rpm : 500 Tolerance mm : 4.005 Rated speed rpm : 500 Tolerance mm : 4.005 Rated speed rpm : 500 Tolerance mm : 4.005	WITH GOVERNOR	LOW IDLE
Control lever position degree : -3 Rated speed rpm : 800 Rated speed rpm : 0.50 Tolerance mm : + 0.20 Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 9.00 Aneroid pressure hFa : - Del. quantity cm3/1000 strokes : 50.5 Tolerance cm3/1000 strokes : + 0.5 Check tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s: : + 2.0 Rated speed rpm : 700 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1400 rack travel mm : 10.20 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.55 Tolerance mm : + 0.05 Rated speed rpm : 500 Rated speed rpm : 955	GUIDE SLEEVE POSITION	position degree : 72.0
Rack travel in mm : 0.50 Tolerance mm : + 0.20 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1400 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 50.5 Tolerance cm3/1000s trokes : + 0.5 Check tolerance cm3/1000s strokes : 2.5 Check tolerance cm3/1000s strokes : 2.5 Check tolerance cm3/1000s strokes : 4.0 CONTROL LEVER Rated speed rpm : 8.50 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 Rated speed rpm : 9.00 Tolerance mm : + 0.10 Tolerance mm : + 0.10 Tolerance mm : 2.00 Rated speed rpm : 700 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1400 Tolerance mm : + 0.05 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 11.55 Tolerance mm : + 0.05 Rated speed rpm : 955	position degree : - 3	+
Rated speed rpm : 1400		+ rack travel mm : 8.50
Rated speed rpm : 1400 Aneroid pressure hFa : - Del. quantity cm3/1000 strokes : 50.5 Tolerance cm3/1000 strokes : + 0.5 Check tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000 strokes : 4.0 Rated speed rpm : 1400 rack travel mm : 10.20 TORQUE CONTROL Rated speed rpm : 1400 rack travel mm : 10.20 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.55 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.55 Tolerance mm : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP	+
Del. quantity cm3/1000 strokes : 50.5 Tolerance cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 2.0 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 4.0 Rated speed rpm : 1400 rack travel mm : 10.20 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.55 Tolerance mm : + 0.05 Rated speed rpm : 955	Aneroid pressure	+ rack travel mm : 9.00
Check tolerance cm3/1000s. : + 2.0 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 4.0 Rated speed rpm : 1400 rack travel mm : 10.20 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.55 Tolerance mm : + 0.05 Rated speed rpm : 955	Del. quantity cm3/1000 strokes : 50.5 Tolerance	Rated speed rpm : 700
Rated speed rpm : 1400 rack travel mm : 10.20 rack travel mm : 10.05 rack travel mm : 11.55 rack travel mm : 11.55 Tolerance mm : + 0.05 rack travel mm : 11.55 Tolerance mm : + 0.05 rack travel mm : 10.20 rack travel mm : 11.55 rack travel mm : 10.05 rack travel mm : 10.0	Check tolerance	TOROUS CONTROL
cm3/1000 strokes : 2.5 rack travel mm : 10.20 Check tolerance cm3/1000s. : 4.0 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.55 Tolerance mm : + 0.05 CONTROL LEVER Rated speed rpm : 955	Spreed	+
Rated speed rpm : 500 rack travel mm : 11.55 Tolerance mm : + 0.05 CONTROL LEVER Rated speed rpm : 955	cm3/1000 strokes : 2.5 Check tolerance	+ rack travel mm : 10.20
CONTROL LEVER + Rated speed rpm : 955		+ rack travel mm : 11.55
	CONTROL LEVER	+

Tolerance mm : \leftarrow 0.10

Start interlock

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +- 1.00

Del. quantity

cm3/1000 strokes : 120.0

Tolerance

cm3/1000 strokes : +- 7.5

Check tolerance

cm3/1000s. : +- 10.0

LOW IDLE

Rated speed rpm : 325

Del. quantity

cm3/1000 strokes : 13.0

Tolerance

cm3/1000 strokes : + 1.5

Check tolerance

cm3/1000s. : +- 3.5

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 28.04.97 Test oil : ISO 4113 Combination No. : 0 400 464 113 Injection pump Pump designation : PES4A75D410/3RS1255 EP type number : 0 410 474 966 Governor : RSV325...1150A8C494 Governer design. : 4L : 0 420 232 572 Governer no. Cust. part No. Customer-spec. information Customer : KHD : F4L912 Motor Power KW 36.0 TEST BENCH REQUIREMENTS Inlet line : 1.3 Test oil inlet temp. °C Tolerance °C 2.0 : 1 419 992 198 Overflow valve 1.5 Inlet press. bar : Test nozzle holde

: 0 681 343 009

173.5

: 1 680 750 014

6.0

x inside diameter x length mm	: 2.0 : 600
REMARKS	
(A) INJECTION PUM Set equal deliver per values	
BEGINNING OF DELI	VERY
Test pressure bar Tolerance bar	: 26.0 : + 1.0
Prestroke mm Tolerance mm Check tolerance mm	: 1.95 : + 0.05 : + 0.10
Rack travel in mm Tolerance mm	: 10.50 : + 1.50
Firing order	: 1-3-4-2
Phasing Tolerance Check tolerance °NW	: 0-90-180-270 : +- 0.50 : +- 0.75
BASIC SETTING	
Rated speed rpm	: 1150
Rack travel in mm Tolerance mm	: 10.65 : + 0.05
Del. quantity cm3/1000 strokes	: 44.0
Tolerance cm3/1000 strokes	: + 0.5
Check tolerance cm3/1000s.	: + 2.0
Spreed	
Tolerance cm3/1000 strokes	: 2.5

bar

assembly

Opening pressure

Outside diameter :

Tolerance bar

Test lines

Check tolerance cm3/1000s.	: 4.0	<pre>control lever position degree : 104.0 tolerance degree : +- 4.0</pre>
Rated speed rpm	: 325	RATED SPEED rack travel mm : 9.60 Rated speed rpm : 1195
	: 8.80 : + 0.10	Tolerance 1/min : + 5
Del. quantity cm3/1000 strokes Tolerance	+	rack travel mm : 4.00 Rated speed rpm : 1235 Tolerance 1/min : +- 15
cm3/1000 strokes Check tolerance	+	rack travel mm : 0.85
cm3/1000s. Spreed Tolerance	: + 4.5	Tolerance mm : + 0.55 Rated speed rpm : 1350
cm3/1000 strokes Check tolerance	+	
cm3/1000s.	: 3.0	LOW IDLE
(B) SETTING OF INJ WITH GOVERNOR	ECTION PUMP	control lever position degree : 72.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSIT	TION	Setting point w/out bumper spring
control lever position degree Rated speed rpm	: - 3 +	Rated speed rpm : 325 rack travel mm : 8.30 Tolerance mm : +- 0.10
Rack travel in mm Tolerance mm	: 0.50 : + 0.20	Testing: Rated speed rpm : 325 rack travel mm : 8.80
FULL LOAD DELIVERY	AT FULL LOAD STOP	Tolerance mm : +- 0.10
Rated speed rpm Aneroid pressure hPa	: 1150 +	rack travel mm : 2.00 Rated speed rpm : 500 Tolerance 1/min : +- 30
Del. quantity cm3/1000 strokes Tolerance	: 44.0	TORQUE CONTROL
cm3/1000 strokes Check tolerance cm3/1000s.	: + 0.5 : + 2.0	Rated speed rpm : 1150 rack travel mm : 10.65 Tolerance mm : +- 0.05
Spreed Tolerance cm3/1000 strokes Check tolerance	+	Rated speed rpm : 500 rack travel mm : 11.60 Tolerance mm : +- 0.10
	: 4.0	Rated speed rpm : 850 rack travel mm : 11.35 Tolerance mm : +- 0.15

Start interlock

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : + 0.75
Del. quantity
cm3/1000 strokes : 105.0
Tolerance
cm3/1000 strokes : + 5.0
Check tolerance

: +- 8.0

LOW IDLE

cm3/1000s.

Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 11.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance 2.0 cm3/1000 strokes : Check tolerance cm3/1000s. 3.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 04,11,96 Edition : ISO 4113 Test oil

Combination No. : 0 400 836 043

Injection pump

Pump designation : PES6A100D320/3RS2691

: -2

: 9 410 230 028 EP type number

Governor

Governer design. : RQV350...1200A31245R

: 0 420 213 118 Governer no.

Cust. part No. :

Customer-spec. information Customer : CDC

Motor : 6CT830 Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : **←** 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0 x inside diameter : 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 28.0 Tolerance bar : + 1.0

Prestroke mm : 2.85 : +- 0.05Tolerance mm

Check

tolerance mm : + - 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: +- 0.50 Tolerance

Check

tolerance *NW : ├ 0.75

Start of delivery blocking

*NW after s.o.d. : 11.00 Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 10.80

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 115.0

		l mutals also
Talauanaa		guide sleeve
Tolerance cm3/1000 strokes	: +- 1.0	travel mm : 8.45 Tolerance mm : +- 0.25
Check tolerance cm3/1000s.	: + 3.0	GUIDE SLEEVE POSITION
Spreed		
		+ control lever
Tolerance cm3/1000 strokes	: 3.5	position degree : - 1 Rated speed rpm : 1250
Check tolerance cm3/1000s.	: 8.0	Rack travel in mm : 16.50 Tolerance mm : + 1.30
		FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm	: 350	+
		+ Rated speed rpm : 1200
Rack travel in m		+ Aneroid pressure
Tolerance mm	: → 0.10	+ hPa : -
Del. quantity	40.0	+ Del. quantity
cm3/1000 strokes	: 19.0	+ cm3/1000 strokes : 115.0
Tolerance		+ Tolerance
cm3/1000 strokes Check tolerance	: +- 2.0	+ cm3/1000 strokes : +- 1.0
cm3/1000s.	: +- 4.5	+ Check tolerance + cm3/1000s. : + 3.0
Spreed	. + 4.5	- Spreed
Tolerance		Tolerance
cm3/1000 strokes	: 5.5	+ cm3/1000 strokes : 3.5
Check tolerance	. 3.3	+ Check tolerance
cm3/1000s.	. 9.0	+ cm3/1000s. : 8.0
(B) SETTING OF I	NJECTION PUMP	CONTROL LEVER
		†
GUIDE SLEEVE TRA	\/FI	+ control lever + position degree : 44.0
GOING SPECAE IKW	V LL	tolerance degree : + 4.0
Rated speed rpm	: 1200	+ total divide degree 4.0
guide sleeve		A RATED SPEED
travel mm	: 6.90	+ rack travel mm : 9.80
		Rated speed rpm : 1245
Rated speed rpm guide sleeve	: 250	+ Tolerance 1/min : +- 5
travel mm	: 0.10	+ rack travel mm : 4.00
Tolerance nm	: 0.10	Rated speed rpm : 1330
Rated speed rpm	: 350	Tolerance 1/min : + 15
guide sleeve	. 4.35	rack travel mm : 0.50
travel mm	: 1.25	+ Tolerance mm : +- 0.50
Tolerance mm	: 0.25	+ Rated speed rpm : 1400
Rated speed rpm guide sleeve	: 450	‡
travel mm	: 2.15	+
Tolerance mm	: +- 0.25	+ LOW IDLE
Rated speed rpm	: 1350	‡

control lever position degree : 13.0 tolerance degree : +- 4.0 Testing: Rated speed rpm 350 rack travel mm : 4.60 Tolerance mm : + 0.10rack travel mm 2.00 Rated speed rpm : **: ←** 30 Tolerance 1/min Rated speed rpm 100 CRT mm min. : > 9.00 TORQUE CONTROL 1200 Rated speed rpm : rack travel mm : 10.80 : +- 0.05 Tolerance mm Start interlock Rated speed rpm :> 100 Rated speed rpm : < 290 Check speed 1/min : > 80 Check speed 1/min 300 : < STARTING FUEL DELIVERY 100 Rated speed rpm : rack travel mm : 20.00 : +- 1.00 Tolerance mm Del. quantity cm3/1000 strokes : 161.0 Tolerance cm3/1000 strokes : +- 7.5 Check tolerance cm3/1000s. : +- 10.0 LOW IDLE

Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. : 9.0

End of test specification sheet

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 19.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 18.11.96 Edition Test oil : ISO 4113

Combination No. : 0 400 844 091

Injection pump

Pump designation : PES4A90D410RS2666 EP type number : 0 410 894 029

Governor

Governer design. : RQV300...1400AB1065

: 12L

Governer no. : 0 420 212 207

Cust. part No. :

Customer-spec. information Customer : MB-NFZ Motor : 0M364 Power KW : 61.0

TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar

Test lines : 1 680 750 015

Outside diameter : 6.0

x length mm : 600

3.0

x inside diameter :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.30 Tolerance mm : + 0.05

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

: 0-90-180-270 : +- 0.50 Phasing Tolerance

Check

tolerance 'NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 10.55 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 59.5

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. : +- 2.5

Spreed

Tolerance cm3/1000 strokes : 3.0 Check tolerance	+ rack travel mm : 4.00 + Rated speed rpm : 1550 + Tolerance 1/min : + 15
cm3/1000s. : 7.0	rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1650
Rated speed rpm : 300	<u> </u>
Rack travel in mm : 8.70 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 10.0	LOW IDLE
Tolerance cm3/1000 strokes : + 2.0	control lever position degree : 74.0
Check tolerance cm3/1000s. : + 4.0	tolerance degree : + 6.0
Spreed Tolerance	Testing:
cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0	+ Rated speed rpm : 300 + rack travel mm : 8.70 + Tolerance mm : + 0.10
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 100
WITH GOVERNOR	CRT mm min. : > 10.20
	Rated speed rpm : 610
FULL LOAD DELIVERY AT FULL LOAD STOP	TORQUE CONTROL
Rated speed rpm : 1400 Aneroid pressure	Rated speed rpm : 1400
hPa : - Del. quantity	rack travel mm : 10.55 Tolerance mm : + 0.05
cm3/1000 strokes : 59.5	I roterarice likil 0.05
Tolerance	Rated speed rom : 475
Tolerance cm3/1000 strokes : + 0.5 Check tolerance	Rated speed rpm : 475 rack travel mm : 11.55 Tolerance mm : + 0.05
cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 2.5 Spreed	rack travel mm : 11.55 Tolerance mm : + 0.05 Rated speed rpm : 850
cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 2.5	rack travel mm : 11.55 Tolerance mm : + 0.05
cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 2.5 Spreed Tolerance cm3/1000 strokes : 3.0	rack travel mm : 11.55 Tolerance mm : + 0.05 Rated speed rpm : 850
cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 2.5 Spreed Tolerance cm3/1000 strokes : 3.0 Check tolerance	rack travel mm : 11.55 Tolerance mm : + 0.05 Rated speed rpm : 850 rack travel mm : 11.00 Tolerance mm : + 0.10
cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 2.5 Spreed Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 7.0	rack travel mm : 11.55 Tolerance mm : + 0.05 Rated speed rpm : 850 rack travel mm : 11.00 Tolerance mm : + 0.10 Start interlock Rated speed rpm : > 100 Rated speed rpm : < 220 Check speed 1/min : > 80 Check
cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 2.5 Spreed Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 7.0 CONTROL LEVER control lever position degree : 111.0	rack travel mm : 11.55 Tolerance mm : + 0.05 Rated speed rpm : 850 rack travel mm : 11.00 Tolerance mm : + 0.10 Start interlock Rated speed rpm : > 100 Rated speed rpm : < 220 Check speed 1/min : > 80

Aneroid pressure	:	_ / 7 F	
Rated speed rpm Del. quantity cm3/1000 strokes	:	475 46.0	
cm3/1000 strokes Tolerance cm3/1000 strokes	:	40.0	
Check tolerance cm3/1000s.	; +-	3.5	
Aneroid pressure	; +	3.5	
hPa Rated speed rpm	:	- 850	
Del. quantity cm3/1000 strokes	•	49.0	
Tolerance cm3/1000 strokes	•	1.5	
Check tolerance	• 4		
J. 10000	• .	0. 5	
STARTING FUEL DEL	IVERY		
Rated speed rpm	:	100	
rack travel mm Tolerance mm	: : +-	17.20 0.20	
Del. quantity cm3/1000 strokes	:	83.0	
Tolerance cm3/1000 strokes	: +-	7.5	
Check tolerance cm3/1000s.	: +-	10.0	
LOW IDLE			
Rated speed rpm Del. quantity	:	300	
cm3/1000 strokes	:	10.0	
cm3/1000 strokes Check tolerance	: +-	2.0	
cm3/1000S. Spreed	: +-	4.0	
Tolerance cm3/1000 strokes	:	4.5	
Check tolerance cm3/1000S.	:	7.0	
			 _

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.04.97 Test oil : ISO 4113

Combination No. : 0 400 844 095

Injection pump

Pump designation : PES4A95D410RS2809 EP type number : 0 410 894 993

Governor

Governer design. : RQV300...1400AB1065

: 23L

: 0 420 212 227 Governer no.

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : OM 364 Motor

Power KW : 65.0

TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 419 992 198

1.5 Inlet press. bar :

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

bar 173.5 Tolerance bar : **+** 1.5

: 1 680 750 015 Test lines

Outside diameter : 6.0 x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 3.25 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 9.95 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 65.5

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance cm3/1000s.

2.5

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance cm3/1000s. : 6.0	control lever position degree : 113.0 tolerance degree : + 6.0
Rated speed rpm : 300	RATED SPEED rack travel mm : 8.90 Rated speed rpm : 1455
Rack travel in mm: 8.50 Tolerance mm: + 0.10 Del. quantity	Tolerance 1/min : +- 5
cm3/1000 strokes : 10.0 + Tolerance +	rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : +- 15
cm3/1000 strokes : + 2.0 + Check tolerance cm3/1000s. : + 4.5	rack travel mm : 0.50 Tolerance mm : +- 0.50
Spreed +	Rated speed rpm : 1670
cm3/1000 strokes : 3.5 + Check tolerance cm3/1000s. : 5.5	
cm3/1000s. : 5.5	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 75.0 tolerance degree : +- 6.0
GUIDE SLEEVE POSITION	Testing:
control lever position degree : - 1 Rated speed rpm : 1450 Rack travel in mm : 16.50 Tolerance mm : + 1.30	Rated speed rpm : 300 rack travel mm : 8.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 9.60
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 625
Rated speed rpm : 1400 + Aneroid pressure	TORQUE CONTROL
hPa : - +	Rated speed rpm : 1400
Del. quantity cm3/1000 strokes : 65.5 Tolerance	rack travel mm : 9.95 Tolerance mm : +- 0.05
cm3/1000 strokes : + 0.5 Check tolerance	Rated speed rpm : 400 rack travel mm : 10.80
cm3/1000s. : + 2.5	Tolerance mm : + 0.10
Tolerance cm3/1000 strokes : 3.5 Check tolerance	Rated speed rpm : 670 rack travel mm : 10.60 Tolerance mm : +- 0.10
cm3/1000s. : 6.0	Rated speed rpm : 1060 rack travel mm : 10.25 Tolerance mm : + 0.15
CONTROL LEVER	U. I

Start interlock Rated speed rpm : > 100 Rated speed rpm : < 220 Check speed 1/min : > 80 Check speed 1/min : < 240	
Check speed 1/min : > 80 Check	
speed 1/min : > 80 Check	
Check	
FUEL DELIVERY CHARACTERISTICS	
Aneroid pressure	
hPa : -	
Rated speed rpm : 400 Del. quantity	
cm3/1000 strokes : 49.5 Tolerance	
cm3/1000 strokes : + 1.5 Check tolerance	
cm3/1000s. : +- 4.0	
Rated speed rpm : 100 rack travel mm : 15.00 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0	
LOW IDLE	· · · · · · · · · · · · · · · · · · ·
Rated speed rpm : 300 Del. quantity	
cm3/1000 strokes : 10.0 Tolerance	
cm3/1090 strokes : +- 2.0 Check tolerance	
cm3/1000s. : +- 4.5 Spreed	
Tolerance cm3/1000 strokes : 3.5 Check tolerance	
cm3/1000s. : 5.5	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 18.11.96 : ISO 4113

Combination No. : 0 400 844 099

Injection pump

Pump designation : PES4A95D41ORS2837 EP type number : 0 410 894 991

Governor

Governer design. : RQV300...1400AB1065

: 29L

Governer no.

: 0 420 212 247

Cust. part No. : 024 074 48 02

Customer-spec, information Customer : MB-NFZ Motor : OM 364 Power KW : 65.0

TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

temp. °C Tolerance *C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar Tolerance bar

: 1 680 750 015 Test lines

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : - 1.0

Prestroke mm 3.25 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

Tolerance : +- 0.50

Check

tolerance °NW : + - 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 8.85 Tolerance nm : **←** 0.05

Del. quantity

cm3/1000 strokes : 72.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s.

: **←** 3.0

Spreed

Tolerance cm3/1000 strokes : 3.5	+ guide sleeve + travel mm : 11.50 + Tolerance mm : +- 0.50
Check tolerance cm3/1000s. : 8.0	
	GUIDE SLEEVE POSITION
Rated speed rpm : 300 Del. quantity	control lever position degree : - 1
cm3/1000 strokes : 12.0 Tolerance	+ Rated speed rpm : 1450
cm3/1000 strokes : +- 2.0 Check tolerance	Rack travel in mm: 16.50 Tolerance mm: + 1.30
cm3/1000s. : +- 4.5 Spreed	
Tolerance cm3/1000 strokes : 5.5	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000s. : 9.0	+ Rated speed rpm : 1400 + Aneroid pressure
	+ hPa : - Del. quantity
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ cm3/1000 strokes : 72.0 + Tolerance + cm3/1000 strokes : +- 1.0
GUIDE SLEEVE TRAVEL	+ Check tolerance + cm3/1000s. : +- 3.0
Rated speed rpm : 1453	+ Spreed + Tolerance
guide sleeve travel mm : 8.77	- cm3/1000 strokes : 3.5 - Check tolerance
Tolerance mm : + 0.25	cm3/1000s. : 8.0
Rated speed rpm : 300 guide sleeve	
travel mm : 1.35 Tolerance mm : + 0.25	CONTROL LEVER
	control lever
Rated speed rpm : 921 guide sleeve	position degree : 113.0 tolerance degree : +- 6.0
travel mm : 5.42 Tolerance mm : + 0.25	+ RATED SPEED
Rated speed rpm : 367	+ rack travel mm : 7.85 + Rated speed rpm : 1445
guide sleeve travel mm : 2.41	Tolerance 1/min : + 5
Tolerance rum : + 0.25	rack travel mm : 4.00 Rated speed rpm : 1520
Rated speed rpm : 417 guide sleeve	Tolerance 1/min : + 15
travel mm : 3.01	rack travel mm : 0.50
Tolerance mm : + 0.25	Tolerance mm : + 0.50 Rated speed rpm : 1650
Rated speed rpm : 490 guide sleeve	‡
travel mm : 3.42 Tolerance mm : + 0.25	
Rated speed rpm : 1740	LOW IDLE
en e	1

control lever

position degree : 68.0 tolerance degree : + 6.0

Setting point w/out bumper spring

Rated speed rpm : 300 rack travel mm : 5.00 Tolerance mm : + 0.10

Testing:

Rated speed rpm : 100

CRT mm min. :> 6.50

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1400 rack travel mm : 8.85 Tolerance mm : + 0.05

Rated speed rpm : 500 rack travel mm : 8.90 Tolerance mm : +- 0.10

Start interlock

Rated speed rpm : > 100 Rated speed rpm : < 220

Check

speed 1/min : > 80

Check

speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 52.5

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 10.50

Tolerance mm : +- 0.20 Del. quantity

cm3/1000 strokes : 83.0

Tolerance

cm3/1000 strokes : +- 7.5

Check tolerance

cm3/1000s. : + 10.0

LOW IDLE

Rated speed rpm : 300

Del. quantity

cm3/1000 strokes : 12.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed

Tolerance

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. : 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.04.97 Test oil : ISO 4113

Combination No. : 0 400 844 101

Injection pump

Pump designation : PES4A95D410RS2809 EP type number : 0 410 894 993

Governor

Governer design. : RQV300...1400AB1065

: 23L

Governer no. : 0 420 212 227

Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : OM 364
Power KW : 65.0

TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.25 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 9.95
Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 65.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

	+ guide sleeve
Check tolerance	travel mm : 11.50
cm3/1000s. : 6.0	+ Tolerance mm : +- 0.50
	+ Oceranice initi
Rated speed rpm : 300	GUIDE SLEEVE POSITION
Rated speed rpm : 300	Ĭ
Rack travel in mm: 8.60	T control lever
Tolerance mm : + 0.10	position degree : - 1
Del. quantity	+ Rated speed rpm : 1450
cm3/1000 strokes : 10.0	+
Tolerance	+ Rack travel in mm : 16.50
cm3/1000 strokes : + 2.0	† Tolerance mm : +- 1.30
Check tolerance	+
cm3/1000s. : + 4.5	FULL LOAD DELTUEDY AT SULL LOAD OTO
Spreed Tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 3.5	Rated speed rpm : 1400
Check tolerance	+ Aneroid pressure
cm3/1000s. : 5.5	+ hPa : -
	Del. quantity
	+ cm3/1000 strokes : 65.5
(B) SETTING OF INJECTION PUMP	† Tolerance
WITH GOVERNOR	+ cm3/1000 strokes : +- 1.0
	+ Check tolerance
	+ cm3/1000s. : + 3.0
GUIDE SLEEVE TRAVEL	+ Spreed
Dated around man in 1/47	+ Tolerance
Rated speed rpm : 1463	+ cm3/1000 strokes : 3.5
guide sleeve trævel mm : 8.14	+ Check tolerance + cm3/1000s. : 6.0
Tolerance mm : +- 0.25	I (11137 10003 0.0
Total alice in	1
Rated speed rpm : 300	
guide sleeve	+ CONTROL LEVER
travel mm : 1.06	+
Tolerance mm : +- 0.25	+ control lever
207	+ position degree : 113.0
Rated speed rpm : 927	tolerance degree : +- 6.0
guide sleeve travel mm : 4.88	Paten speen
Tolerance mm : 4.00	+ RATED SPEED + rack travel mm : 8.90
TOTAL CHAIL . TO U.C.)	+ Rated speed rpm : 1455
Rated speed rpm : 593	Tolerance 1/min : + 5
guide sleeve	
travel mm : 3.46	rack travel mm : 4.00
Tolerance mm : + 0.25	Rated speed rpm : 1550
	+ Tolerance 1/min : +- 15
Rated speed rpm : 643	†
guide sleeve	+ rack travel mm : 0.50
travel mm : 3.86	+ Tolerance mm : + 0.50
Tolerance mm : +- 0.25	+ Rated speed rpm : 1670
Rated speed rpm : 610	1
guide sleeve	1
travel mm : 3.76	
Tolerance mm : + 0.25	+ LOW IDLE
	+
Rated speed rpm : 1810	+

control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min. Rated speed rpm	: +- 6.0 : 300 : 8.60 : +- 0.10 : 100 : > 9.60	Aneroid pressure hPa : - Rated speed rpm : 630 Del. quantity cm3/1000 strokes : 53.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Aneroid pressure hPa : - Rated speed rpm : 925 Del. quantity cm3/1000 strokes : 59.0 Tolerance
TORQUE CONTROL		- cm3/1000 strokes : +- 2.0 - Check tolerance - cm3/1000s. : +- 4.5
Rated speed rpm		-
Tolerance mm		STARTING FUEL DELIVERY
Rated speed rpm rack travel mm Tolerance mm	: 11.15 	Rated speed rpm : 100 rack travel mm : 14.60 Tolerance mm : + 0.20 Del. quantity
Rated speed rpm rack travel mm Tolerance mm	: 10.85 }	cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : +- 5.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 10.55 	cm3/1000s. : +- 8.0
Start interlock	‡	LOW IDLE
Rated speed rpm Rated speed rpm	: > 100 : < 220	Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 10.0
Check speed 1/min Check	: > 80	Tolerance cm3/1000 strokes : +- 2.0 Check tolerance
speed 1/min	: < 240	cm3/1000s. : +- 4.5 Spreed
FUEL DELIVERY CHA	RACTERISTICS	Tolerance cm3/1000 strokes : 3.5 Check tolerance
Aneroid pressure hPa Rated speed rpm Del. quantity	: 400	cm3/1000s. : 5.5
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S.	: 51.0 : + 2.0 : + 4.5	End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30,04,97 Edition Test oil : 150 4113

Combination No. : 0 400 844 102

Injection pump

Pump designation : PES4A95D410RS2809 EP type number : 0 410 894 993

Governor

Governer design. : RQV300...1400AB1C65

: 27L

Governer no. : 0 420 212 238

Cust. part No. : 024 074 50 02

Customer-spec. information Customer : MB-NFZ Motor : OM 364 : 65.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

tempo. °C : +- 2.0 Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar

Test Lines : 1 680 750 015

Outside diameter : 6.0 x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.25 Tolerance mm : +- 0.05 Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

: 0-90-180-270 : +- 0.50 Phasing Phasing Tolerance

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 9.95

Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 65.5

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s. : +--2.5

Spreed

Tolerance

cm3/1000 strokes : 3.5

Charl halanana	guide Steeve
Check tolerance	travel mm : 11.50
cm3/1000s. : 6.0 -	Tolerance mm : +- 0.50
	-
+	
-	GUIDE SLEEVE POSITION
Rated speed rpm : 300	_
· · · · · · · · · · · · · · · · · · ·	_
Rack travel in mm: 8.60	control lever
Tolerance mm : + 0.10	position degree : - 1
Del. quantity	Rated speed rpm : 1450
cm3/1000 strokes : 10.0	hateu speed rpiii . 1430
Tolerance	Pools turned for mm s 44 50
	Rack travel in mm: 16.50
cm3/1000 strokes : +- 2.0 -	Tolerance mm : +- 1.30
Check tolerance	-
cm3/1000s. : +- 4.5	
Spreed -	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	
cm3/1000 strokes : 3.5	- Rated speed rpm : 1400
Check tolerance -	Aneroid pressure
cm3/1000s. : 5.5	- hPa : -
	- Del. quantity
	- cm3/1000 strokes : 65.5
(B) SETTING OF INJECTION PUMP	- Tolerance
WITH GOVERNOR	- cm3/1000 strokes : +- 0.5
KIN GOVENNON	Check tolerance
	- cm3/1000s. : +- 2.5
CUINE SLEEVE TRAVEL	
GUIDE SLEEVE TRAVEL	- Spreed
D.A. Lamandana (177	Folerance
Rated speed rpm : 1463	cm3/1000 strokes : 3.5
guide steeve	Check tolerance
travel mm : 8.14	- cm3/1000s. : 6.0
Tolerance mm : + 0.25	-
	-
Rated speed rpm : 300	
guide sleeve	- CONTROL LEVER
travel mm : 1.06	
Tolerance mm : +- 0.25	- control lever
-	position degree : 113.0
Rated speed rpm : 927	tolerance degree : +- 6.0
guide sleeve	-
travel mm : 4.88	RATED SPEED
Tolerance mm : + 0.25	rack travel mm : 8.90
_	- Rated speed rpm : 1455
Rated speed rpm : 593	
Rated speed rpm : 593 - guide sleeve -	- Rated speed rpm : 1455 - Tolerance 1/min : +- 5
Rated speed rpm : 593 - guide sleeve - travel mm : 3.46 -	- Rated speed rpm : 1455 - Tolerance 1/min : +- 5 - - rack travel mm : 4.00
Rated speed rpm : 593 - guide sleeve -	- Rated speed rpm : 1455 - Tolerance 1/min : +- 5 - - rack travel mm : 4.00 - Rated speed rpm : 1550
Rated speed rpm : 593 - guide sleeve - travel mm : 3.46 - Tolerance mm : + 0.25 -	- Rated speed rpm : 1455 - Tolerance 1/min : +- 5 - - rack travel mm : 4.00
Rated speed rpm : 593 guide sleeve travel mm : 3.46 Tolerance mm : + 0.25 Rated speed rpm : 643	Rated speed rpm : 1455 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15
Rated speed rpm : 593 guide sleeve travel mm : 3.46 Tolerance mm : + 0.25 Rated speed rpm : 643 guide sleeve	Rated speed rpm : 1455 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 rack travel mm : 0.50
Rated speed rpm : 593 guide sleeve travel mm : 3.46 Tolerance mm : + 0.25 Rated speed rpm : 643 guide sleeve travel mm : 3.86	Rated speed rpm : 1455 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm : 593 guide sleeve travel mm : 3.46 Tolerance mm : + 0.25 Rated speed rpm : 643 guide sleeve	Rated speed rpm : 1455 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 rack travel mm : 0.50
Rated speed rpm : 593 guide sleeve travel mm : 3.46 Tolerance mm : + 0.25 Rated speed rpm : 643 guide sleeve travel mm : 3.86	Rated speed rpm : 1455 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm : 593 guide sleeve travel mm : 3.46 Tolerance mm : + 0.25 Rated speed rpm : 643 guide sleeve travel mm : 3.86 Tolerance mm : + 0.25	Rated speed rpm : 1455 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm : 593 guide sleeve travel mm : 3.46 Tolerance mm : + 0.25 Rated speed rpm : 643 guide sleeve travel mm : 3.86 Tolerance mm : + 0.25 Rated speed rpm : 610	Rated speed rpm : 1455 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm : 593 guide sleeve travel mm : 3.46 Tolerance mm : + 0.25 Rated speed rpm : 643 guide sleeve travel mm : 3.86 Tolerance mm : + 0.25 Rated speed rpm : 610 guide sleeve	Rated speed rpm : 1455 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm : 593 guide sleeve travel mm : 3.46 Tolerance mm : + 0.25 Rated speed rpm : 643 guide sleeve travel mm : 3.86 Tolerance mm : + 0.25 Rated speed rpm : 610 guide sleeve travel mm : 3.76	Rated speed rpm : 1455 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1670
Rated speed rpm : 593 guide sleeve travel mm : 3.46 Tolerance mm : + 0.25 Rated speed rpm : 643 guide sleeve travel mm : 3.86 Tolerance mm : + 0.25 Rated speed rpm : 610 guide sleeve	Rated speed rpm : 1455 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm : 593 guide sleeve travel mm : 3.46 Tolerance mm : + 0.25 Rated speed rpm : 643 guide sleeve travel mm : 3.86 Tolerance mm : + 0.25 Rated speed rpm : 610 guide sleeve travel mm : 3.76	Rated speed rpm : 1455 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1670

guide sleeve

control lever position degree tolerance degree	: 75.0 : + 6.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 8.60 : +- 0.10
Rated speed rpm	: 100
CRT mm min.	: > 9.60
Rated speed rpm	: 625
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1400 : 9.95 : +- 0.05
Reted speed rpm rack travel mm Tolerance mm	: 400 : 11.15 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 670 : 10.70 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1060 : 10.25 : + 0.15
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 220
Check speed 1/min	: > 80
Check speed 1/min	: < 240
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
hPa Rated speed rpm	: - : 400
Del. quantity cm3/1000 strokes	
Tolerance	
cm3/1000 strokes Check tolerance cm3/1000s.	: +- 4.0
CIID/ TOOOS,	4.0

STARTING FUEL DEL	IVERY		
Rated speed rpm rack travel mm Tolerance mm	: : +-	100 14.60 0.20	
Del. quantity cm3/1000 strokes Tolerance	:	83.0	
cm3/1000 strokes Check tolerance	: +-	5.0	
cm3/1000s.	: +-	8.0	
LOW IDLE			
Rated speed rom	:	360	
Rated speed rom Del. quantity cm3/1000 strokes	:	360 10.0	
Rated speed rom Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: +-	10.0	
Rated speed rom Del. quantity cm3/1000 strokes Tolerance	•	10.0	
Rated speed rom Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	•	10.0	

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 29.04.97 : ISO 4113 Test oil Combination No. : 0 400 844 105 Injection pump Pump designation : PES4A95D41ORS2837 EP type number : 0 410 894 991 Governor Governer design. : RQV300...1400AB1065 : 33L : 0 420 212 249 Governer no. Cust. part No : 026 074 08 02 Customer-spec. information Customer : MB-NFZ : OM 364 Motor Power KW : 65.0 TEST BENCH REQUIREMENTS Inlet line : 2.3 Test oil inlet temp. °C Tolerance °C Overflow valve : 1 419 992 198 Inlet press. bar : 1.5

: 0 681 343 009

: 173.5

x Length mm : 600 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____ BEGINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar : + 1.0Prestroke mm : 3.25 Tolerance mm : + 0.05 Check tolerance mm : \leftarrow 0.10 Rack travel in mm : 10.50 Tolerance mm : + 1.50 Firing order : 1-3-4-2 : 0-90-180-270 : +- 0.50 Phasing Tolerance Check tolerance *NW : +- 0.75 BASIC SETTING Rated speed rpm : 1400 Rack travel in mm: 8.85 Tolerance mm : +- 0.05 Del. quantity cm3/1000 strokes : 72.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000S. : +- 3.0 Spreed Tolerance cm3/1000 strokes : 3.5

x inside diameter: 3.0

Test nozzle holde

Opening pressure

Tolerance bar : + 1.5

Outside diameter : 6.0

Test Lines : 1 680 750 015

assembly

bar

	+
Check tolerance	+ RATED SPEED
cm3/1000s. : 8.0	+ rack travel mm : 7.85
	+ Rated speed rpm : 1445
	+ Tolerance 1/min : +- 5
Rated speed rpm : 300	rack travel mm : 4.00
Del. quantity	Rated speed rpm : 1525
cm3/1000 strokes : 12.0	+ Tolerance 1/min : +- 15
Tolerance	10 certainee trimiti
cm3/1000 strokes : + 2.0	rack travel mm : 0.50
Check tolerance	+ Tolerance mm : + 0.50
cm3/1000s. : + 4.5	+ Rated speed rpm : 1670
Spreed	1
Tolerance	+
cm3/1000 strokes : 5.5	+
Check tolerance	+
cm3/1000s. : 9.0	+ LOW IDLE
	+
(b) OPERALIO OF SHIPPERALI SHOP	+
(B) SETTING OF INJECTION PUMP	+ control lever
WITH GOVERNOR	position degree : 66.0
	+ Setting point w/out bumper spring
	+
GUIDE SLEEVE POSITION	+ Rated speed rpm : 300
	+ rack travel mm : 5.00
	+ Tolerance mm : + 0.10
control lever	+
position degree : - 1	+ Testing:
Rated speed rpm : 1450	100
Burdy Annual Samuel 44 50	+ Rated speed rpm : 100
Rack travel in mm: 16.50	CDT are size
Tolerance mm : +- 1.30	+ CRT mm min. : > 6.50
FULL LOAD DELIVERY AT FULL LOAD STOP	TORQUE CONTROL
Rated speed rpm : 1400	Poted speed pre : 1/00
Rated speed rpm : 1400 Aneroid pressure	+ Rated speed rpm : 1400 + rack travel mm : 8.85
hPa : -	+ Tolerance mm : + 0.05
Del. quantity	Toterance in 1999
cm3/1000 strokes : 72.0	Rated speed rpm : 500
Tolerance	+ rack travel mm : 8.90
cm3/1000 strokes : +- 1.0	Tolerance mm : + 0.10
Check tolerance	1
cm3/1000s. : - 3.0	+
Spreed	+ Start interlock
Tolerance	+
cm3/1000 strokes : 3.5	Rated speed rpm : > 100
Check tolerance	+ Rated speed rpm : < 220
cm3/1000s. : 8.0	+
	+ Check
	+ speed 1/min : > 80
	+ Check
CONTROL LEVER	+ speed 1/min : < 240
and a layer	†
control lever	FUEL DEL THERY CHARACTERICITION
position degree : 112.0	+ FUEL DELIVERY CHARACTERISTICS
	Т

Aneroid pressure hPa 500 Rated speed rpm : Del. quantity cm3/1000 strokes : 53.5 Tolerance 2.0 cm3/1000 strokes : +-Check tolerance cm3/1000s. 4.0 STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 10.50 : + 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : \leftarrow 7.5 Check tolerance cm3/1000s. : **+** 10.0 LOW IDLE 300 Rated speed rpm Del. quantity cm3/1000 strokes : 12.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance 4.5 cm3/1000s. Spreed Tolerance 5.5 cm3/1000 strokes : Check tolerance cm3/1000s. 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22.08.96 Edition : ISO 4113 Test oil

Combination No. : 0 400 844 106

Injection pump

Pump designation : PES4A95D410RS2837 EP type number : 0 410 894 991

Governor

Governer design. : RQV300...1400AB1065

: 33L

: 0 420 212 249 Governer no.

Cust. pert No. : 026 074 09 02

Customer-spec. information Customer : MB-NFZ : OM 364 Motor : 65.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.25
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance \mathfrak{am} : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : +- 0.50

Check

tolerance "NW : + 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 8.85

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 72.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

: + 3.0 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 3.5

: 8.0 : 300 : 12.0 : + 2.0 : + 4.5 : 5.5 : 9.0 ECTION PUMP		++++++++++++++++++	cm3/1000 Tolerand cm3/1000 Check to cm3/1000 Spreed Tolerand cm3/1000 Check to cm3/1000 Check to cm3/1000 Check to
: 300 : 12.0 : + 2.0 : + 4.5 : 5.5 : 9.0 ECTION PUMP		+++++++++++++++++++++++++++++++++++++++	Del. qua cm3/1000 Tolerand cm3/1000 Check to cm3/1000 Check to cm3/1000 Check to cm3/1000 Control position
: 12.0 : + 2.0 : + 4.5 : 5.5 : 9.0 ECTION PUMP			cm3/1000 Tolerand cm3/1000 Check to cm3/1000 Spreed Tolerand cm3/1000 Check to cm3/1000 Check to cm3/1000 Check to
: 12.0 : + 2.0 : + 4.5 : 5.5 : 9.0 ECTION PUMP		++++++++++++++	Tolerand cm3/1000 Check to cm3/1000 Check to cm3/1000 Check to cm3/1000 Control position
: 12.0 : + 2.0 : + 4.5 : 5.5 : 9.0 ECTION PUMP		+++++++++++++	cm3/1000 Check to cm3/1000 Spreed Tolerand cm3/1000 Check to cm3/1000 CONTROL control position
: + 2.0 : + 4.5 : 5.5 : 9.0 ECTION PUMP		+++++++++++++++++++++++++++++++++++++++	Tolerand cm3/1000 Check to cm3
: + 2.0 : + 4.5 : 5.5 : 9.0 ECTION PUMP		+++++++++++++++++++++++++++++++++++++++	Spreed Tolerand cm3/1000 Check to cm3/1000 CONTROL control position
: + 4.5 : 5.5 : 9.0 ECTION PUMP		+++++++++++++++++++++++++++++++++++++++	Tolerand cm3/1000 Check to cm3
: + 4.5 : 5.5 : 9.0 ECTION PUMP		+++++++++++++++++++++++++++++++++++++++	cm3/1000 Check to cm3/1000
: 5.5 : 9.0 ECTION PUMP		+++++++++++++++++++++++++++++++++++++++	CONTROL control position
: 5.5 : 9.0 ECTION PUMP			cm3/1000 CONTROL control position
: 9.0 ECTION PUMP		++++++	CONTROL control position
: 9.0 ECTION PUMP		+++++++++++++++++++++++++++++++++++++++	control position
ECTION PUMP		+ + + + +	control position
ECTION PUMP		+ + + + + +	control position
L		† † † †	position
L		† + + +	position
L		Ī	
		1	to ter and
		1	
			RATED SP
. 4//0		+	rack tra
. 41/A		+	Rated sp
: 1460		+	Tolerand
0.05		†	
		†	rack tra
· +- U.U5		Ī	Rated sp
• 300		I	locel allo
. 550		1	rack tra
1.05		<u> </u>	Tolerand
: +- 0.25		+	Rated sp
		+	
: 600		+	
. 7.00		†	
		†	I OU TOLE
. + 0.25		I	LOW IDLE
• 1040		I	
		1	control
5.50		+	position
: +- 0.10		+	tolerand
		+	
TON		†	Setting
TON		I	Rated sp
		I	rack tra
		1	Tolerand
: - 1		1	, , , , , , , , , , , , , , , , , , , ,
1450		+	Testing:
		+	_
		+	Rated sp
: +- 1.30		†	CDT
		†	CRT mm m
AT FULL LOAD	STOP	I	
AT FULL LUAD	OIOL	1	TORQUE C
	: 8.25 : + 0.05 : 300 : 1.05 : + 0.25 : 600 : + 0.25 : 1040 : + 0.10 ION : - 1 : 1450 : + 1.30	: 8.25 : + 0.05 : 300 : 1.05 : + 0.25 : 600 : 3.80 : + 0.25 : 1040 : 5.50 : + 0.10 ION	: 8.25 : + 0.05 : 300 : 1.05 : + 0.25 : 600 : 3.80 : + 0.25 : 1040 : 5.50 : + 0.10 ION

Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1400 : - : 72.0 : + 1.0 : + 3.0 : 3.5 : 8.0
CONTROL LEVER	
control lever position degree tolerance degree	: 112.0 : + 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 7.85 : 1445 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1525 : +- 15
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : + 0.50 : 1670
LOW IDLE	
control lever position degree tolerance degree	: 66.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm rack travel mm Tolerance mm	: 300 : 5.00 : +- 0.10

speed rpm : 100

min. :> 6.50

TORQUE CONTROL

1400 Rated speed rpm rack travel mm 8.85 : Tolerance mm : +- 0.05

500 Rated speed rpm 8.90 rack travel mm Tolerance mm : + 0.10

Start interlock

100 Rated speed rpm : > Rated speed rpm 220

Check

: > speed 1/min 80

Check

speed 1/min : < 240

#52L DELIVERY CHARACTERISTICS

Aneroid pressure

hPa

500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 53.5

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s. 4.0

STARTING FUEL DELIVERY

Rated speed rpm 100 10.50 rack travel mm Tolerance mm : +- 0.20

Del. quantity

cm3/1000 strokes : 83.0

Tolerance

cm3/1000 strokes : +-7.5

Check tolerance

cm3/1000s. : + 10.0

LOW IDLE

300 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 12.0

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s.4.5

Spreed

Tolerance

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s.

9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.11.96 Test oil : ISO 4113

Combination No. : 0 400 846 559

Injection pump

Pump designation : PES6A90D410RS2710 EP type number : 0 410 896 082

Governor

Governer design. : RQV300...1400AB1065

: 9L

: 0 420 212 202 Governer no.

Cust. part No.

Customer-spec. information Customer : M8-NFZ Motor : OM 365 Power KW : 92.0

TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 1.5 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : ← 1.0

: 2.30 Prestroke mm Tolerance mm : **←** 0.05

Check

tolerance mm : **←** 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

Tolerance : + 0.50

Check

tolerance "NW : \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 10.35

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 59.5

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s. : +- 2.5

Spreed

Tolerance	†
cm3/1000 strokes : 3.0	CONTROL LEVER
Check tolerance cm3/1000s. : 7.0	t control lever
(115/155001	position degree : 109.0
	tolerance degree : +- 6.0
Rated speed rpm : 300	RATED SPEED
	+ rack travel mm : 9.30
Rack travel in mm : 8.80	+ Rated speed rpm : 1445
Tolerance mm : +- 0.10	+ Tolerance 1/min : + 5
Del. quantity cm3/1000 strokes : 12.0	+ rack travel mm : 4.00
cm3/1000 strokes : 12.0 Tolerance	Rated speed rpm : 1555
cm3/1000 strokes : +- 2.0	Tolerance 1/min : +- 15
Check tolerance	+
cm3/1000s. : +- 4.0	frack travel mm : 0.50
Spreed	Tolerance mm : + 0.50
Tolerance	+ Rated speed rpm : 1650
cm3/1000 strokes : 4.5	†
Check tolerance	†
cm3/1000s. : 7.0	†
	+ LOW IDLE
(B) SETTING OF INJECTION PUMP	+ 20% 1022
WITH GOVERNOR	1
	+ control lever
	position degree : 73.0
	tolerance degree : +- 6.0
GUIDE SLEEVE POSITION	†
	+ Testing:
control lever	Rated speed rpm : 300
position degree : -1	rack travel mm : 8.80
Rated speed rpm : 1500	Tolerance mm : + 0.10
A . 50	Potentian - 100
Rack travel in mm : 16.50 Tolerance mm : + 1.30	Rated speed rpm : 100
Tolerance mm : + 1.30	CRT mm min. : > 10.30
	+
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 655
Patrid arread our A/00	†
Rated speed rpm : 1400	TORQUE CONTROL
Aneroid pressure	I TONGOE CONTROL
Del. quantity	Rated speed rpm : 1400
cm3/1000 strokes : 59.5	rack travel mm : 10.35
Tolerance	Tolerance mm : +- 0.05
cm3/1000 strokes : 0.5	
Check tolerance	Rated speed rpm : 500
cm3/1000s. : + 2.5	rack travel mm : 11.40 Tolerance mm : +- 0.05
Spreed	Tolerance mm : +- 0.05
Tolerance - cm3/1000 strokes : 3.0 -	Rated speed rpm : 750
Check tolerance	rack travel mm : 11.10
cm3/1000s. : 7.0	Tolerance mm : + 0.10
	+
•	Rated speed rpm : 1100
_	rack travel mm : 10.40

Tolerance mm	: + 0.15	
Start interlock		
Rated speed rpm	: > 100	
Rated speed rpm Rated speed rpm	: < 220	
Check	. > 00	
speed 1/min Check	: > 80	
speed 1/min	: < 240	
•		
FUEL DELIVERY CHA	ARACTERISTICS	
Aneroid pressure		
hPa	; -	
Rated speed rpm	: 500	
Del. quantity cm3/1000 strokes	: 46.0	
Tolerance	: 46.0	
cm3/1000 strokes	: +- 1.5	
Check tolerance	. . .	
cm3/1000s.	: + 3.5	
Aneroid pressure		
hPa	: -	
Rated speed rpm	: 750	
Del. quantity cm3/1000 strokes	: 49.0	
Tolerance	. 47.0	
cm3/1000 strokes	: + 1.5	
Check tolerance		
cm3/1000s.	: - 3.5	
STARTING FUEL DEL	.IVERY	
Rated speed rpm	: 100	
rack travel mm	: 17.29	
Tolerance mm	: + 0.20	
Del. quantity	. 97.0	
cm3/1000 strokes Tolerance	: 83.0	
cm3/1000 strokes	: ← 7.5	
Check tolerance		
cm3/1000s.	: +- 10.0	
LOW IDLE		
Rated speed rpm	: 300	
Del. quantity cm3/1000 strokes	: 12.0	
Tolerance	. (2.0	
cm7/1000 etnoker	· + 2 f	

Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0

End of test specification sheet

E03

cm3/1000 strokes : + 2.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.04.97 Test oil : ISO 4113

Combination No. : 0 400 846 592

Injection pump

Pump designation : PES6A95D410RS2797 EP type number : 0 410 896 900

Governor

Governer design. : RQV300...1200AB1065

: 24L

Governer no. : 0 420 212 228

Cust. part No. :

Customer-spec. information Customer : MB-NFZ Motor : OM 366 Power KW : 92.0

TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.25 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

. 4

Phasing : 0-60-120-180-240

Tolerance : + 0.50

Check

tolerance "NW : + 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 9.95

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 59.5

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s.

: **←** 3.0

Spreed

Tolerance + cm3/1000 strokes : 3.5 +	
+	CONTROL LEVER
Check tolerance cm3/1000s. : 8.0	control lever position degree : 106.0 tolerance degree : +- 6.0
Rated speed rpm : 300	RATED SPEED rack travel mm : 8.90
Rack travel in mm: 8.80 Tolerance mm: + 0.20 Del. quantity	Rated speed rpm : 1245 Tolerance 1/min : +- 5
cm3/1000 strokes : 10.0 + Tolerance +	rack travel mm : 4.00 Rated speed rpm : 1375
cm3/1000 strokes : + 2.0 + Check tolerance +	Tolerance 1/min : + 15
cm3/1000s. : + 4.5 + Tolerance + 4.5	rack travel mm : 0.50 Tolerance mm : + 0.50
cm3/1000 strokes : 5.5 Check tolerance	Rated speed rpm : 1550
cm3/1000s. : 9.0	
(3) SETTING OF INJECTION PUMP	LOW IDLE
	control lever position degree : 75.0
GUIDE SLEEVE POSITION	tolerance degree : +- 6.0 Testing:
control lever position degree : - 1 Rated speed rpm : 1450	Rated speed rpm : 300 rack travel mm : 8.80 Tolerance mm : + 0.20
Rack travel in mm: 16.50 Tolerance mm: + 1.30	Rated speed rpm : 100
<u> </u>	CRT mm min. : > 9.60
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 575
Rated speed rpm : 1200 + Aneroid pressure + Pa : -	TORQUE CONTROL
Del. quantity cm3/1000 strokes : 59.5	Rated speed rpm : 1200 rack travel mm : 9.95
Tolerance + 1.0 +	Tolerance mm : + 0.05
Check tolerance cm3/1000s. : +- 3.0 +- Spreed	Rated speed rpm : 500 rack travel mm : 10.80 Tolerance mm : + 0.10
Tolerance + cm3/1000 strokes : 3.5 +	Rated speed rpm : 840
Check tolerance cm3/1000s. : 8.0	rack travel mm : 10.35 Tolerance mm : + 0.15
‡	Start interlock

Rated speed rpm :> 100 Rated speed rpm : < 220 Check speed 1/min 80 : > Check speed 1/min 240 : < FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa Rated speed rpm 500 Del. quantity cm3/1000 strokes : 45.5 Tolerance 2.0 cm3/1000 strokes Check tolerance 4.0 cm3/1000s.STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 14.80 : **+** 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : + 7.5 Check tolerance cm3/1000s. : + 10.0 LOW IDLE 300 Rated speed rpm Del. quantity cm3/1000 strokes : 10.0 Tolerance 2.0 cm3/1000 strokes Check tolerance 4.5 cm3/1000s. Spreed Tolerance cm3/1000 strokes 5.5 Check tolerance cm3/1000s. 9.0 End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.04.97 Test oil : ISO 4113

Combination No. : 0 400 846 614

Injection pump

Pump designation : PES6A95D41ORS2844 EP type number : 0 410 896 893

Governor

Governer design. : RQV300...1400AB1065

: 31L

Governer no. : 0 420 212 246

Cust. part No. : 024 074 9702

Customer-spec. information Customer : MB-NFZ Motor : OM 366 Power KW : 97.0

TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5
x length mm : 600

DEMADIC

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.25 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 8.75

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 74.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

E07

Tolerance cm3/1000 strokes	: 3.5	control lever position degree : - 1
Check tolerance cm3/1000s.	: 6.0	Rated speed rpm : 1450
		Rack travel in mm: 16.50 Tolerance mm: +- 1.30
Rated speed rpm	: 300	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mo	4.50	TOLE COND DECIVERY AT TOLE COMP STOT
Tolerance mm		+ Rated speed rpm : 140û
Del. quantity	4.5	+ Aneroid pressure
cm3/1000 strokes	: 10.0	+ hPa : -
Tolerance cm3/1000 strokes	• +- 20	+ Del. quantity + cm3/1 00 0 strokes : 74.0
Check tolerance	. + 2.0	Tolerance
cm3/1000s.	: ← 4.5	+ cm3/1000 strokes : +- 1.0
Spreed		+ Check tolerance
Tolerance		+ cm3/1000s. : +- 3.0
cm3/1000 strokes		Spreed
Check tolerance cm3/1000s.	: 5.5	Tolerance cm3/1000 strokes : 3.5
(1107 10003.	• 5.5	+ Check tolerance
		+ cm3/1000s. : 6.0
(B) SETTING OF IN WITH GOVERNOR	NECTION PUMP	<u> </u>
CHINE CHEEVE TOAK	/EI	
GUIDE SLEEVE TRAV	/EL	T control lever
Rated speed rpm	: 1450	position degree : 113.0
guide sleeve		tolerance degree : +- 4.0
travel mm	: 8.10	†
Tolerance mm	: +- 0.05	+ RATED SPEED
Rated speed rpm	: 300	+ rack travel mm : 7.75 + Rated speed rpm : 1445
guide sleeve	. 500	Tolerance 1/min : + 5
travel mm	: 1.10	+
Tolerance mm	: + 0.25	rack travel mm : 4.00
	005	Rated speed rpm : 1525
Rated speed rpm guide sleeve	: 925	Tolerance 1/min : + 15
travel mm	: 4.80	rack travel mm : 0.50
Tolerance mm		+ Tolerance mm : +- 0.50
		Rated speed rpm : 1650
Rated speed rpm	: 590	+
guide sleeve	7.50	†
travel mm	: 3.50 : +- 0.25	<u> </u>
Tolerance mm	; 0.25	LOW IDLE
Rated speed rpm	: 640	1 20% 1022
guide sleeve		+
travel mm	: 3.90	- control lever
Tolerance mm	: +- 0.25	+ position degree : 64.0 + tolerance degree : +- 4.0
GUIDE SLEEVE POSI	TION	Testing:

Rated speed rpm

300

rack travel mm Tolerance mm	: 4.50 : + 0.10
Rated speed rpm	: 100
CRT mm min.	: > 6.00
TORQUE CONTROL	-
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 500 : 8.80 : + 0.15
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 220
Check speed 1/min Check	: > 80
speed 1/min	: < 240
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
Rated speed rpm	500
Del. quantity cm3/1000 strokes	: 57.0
Tolerance cm3/1000 strokes	: +- 1.5
Check tolerance cm3/1000s.	: ← 4.0
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel nm	: 100 : 11.00
Tolerance mm	: +- 0.20
Na	. 89 0
Del. quantity cm3/1000 strokes	: 88.0
	: +- 5.0

Rated speed rpm : 300
Del. quantity
cm3/1000 strokes : 10.0
Tolerance
cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000s. : + 4.5
Spreed
Tolerance
cm3/1000 strokes : 3.5
Check tolerance
cm3/1000 strokes : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 18.11.96 : ISO 4113

Combination No. : 0 400 846 616

Injection pump

Pump designation : PES6A95D41ORS2844 : 0 410 896 893 EP type number

Governor

Governer design. : RQV300...1400AB1065

: 32L

Governer no.

: 0 420 212 248

Cust. part No. : 025 074 5902

Customer-spec, information : MB-NFZ Customer : OM 366 Motor Power KW : 95.0

TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

temp. °C Tolerance *C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

bar 173.5 Tolerance bar

: 1 680 750 089 Test lines

Outside diameter : 6.0

x inside diameter : 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

3.25 Prestroke mm : +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 : +- 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 9.70 Tolerance min : +- 0.05

Del. quantity

cm3/1000 strokes : 67.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

: +-3.0 cm3/1000s.

Spreed

E10

Tolerance	-
cm3/1000 strokes : 3.5	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : 6.0	
	- control lever - position degree : - 1
Rated speed rpm : 300	Rated speed rpm : 1450 Rack travel in mm : 16.50
Rack travel in mm: 5.90 Tolerance mm: + 0.10 Del. quantity	- Tolerance mm : + 1.30
cm3/1000 strokes : 10.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : +- 2.0 Check tolerance	- Rated speed rpm : 1400 Aneroid pressure
cm3/1000s. : +- 4.5 Spreed	- hPa : - Del. quantity
Tolerance - cm3/1000 strokes : 3.5 -	- cm3/1000 strokes : 67.0 - Tolerance
Check tolerance cm3/1000s. : 5.5	cm3/1000 strokes : +- 1.0 Check tolerance
(D) PETTANC OF TALLECTION DAIND	- cm3/1000s. : +- 3.0 - Spreed
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- Tolerance - cm3/1000 strokes : 3.5 - Check tolerance
GUIDE SLEEVE TRAVEL	- cm3/1000s. : 6.0
Rated speed rpm : 1452	
guide sleeve travel mm : 8.03	- CONTROL LEVER
Tolerance mm : + 0.25	control lever position degree : 115.0
Rated speed rpm : 300 - guide sleeve - 4.00	tolerance degree : + 4.0
travel mm : 1.06 - Tolerance mm : +- 0.25 -	- RATED SPEED - rack travel mm : 8.70 - Rated speed rpm : 1445
Rated speed rpm : 593 - guide sleeve -	Tolerance 1/min : + 5
travel mm : 3.46 Tolerance mm : + 0.25	- rack travel mm : 4.00 - Rated speed rpm : 1535
Rated speed rpm : 643	Tolerance 1/min : + 15
guide sleeve travel mm : 3.84	rack travel mm : 0.50 - Tolerance mm : +- 0.50
Tolerance mm : + 0.25	- Rated speed rpm : 1650
Rated speed rpm : 1030 - guide sleeve - 5.73	
travel mm : 5.33 - Tolerance mm : + 0.25 -	- LOW IDLE
Rated speed rpm : 1820 - guide sleeve	control lever
travel mm : 11.50 - Tolerance mm : + 0.50	position degree : 68.0 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300 rack travel mm : 5.90 Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 6.50

TORQUE CONTROL

Rated speed rpm : 1400 rack travel mm : 9.70 Tolerance mm : + 0.05

Rated speed rpm : 500 rack travel mm : 9.75 Tolerance mm : + 0.15

Start interlock

Rated speed rpm : > 100 Rated speed rpm : < 220

Check

speed 1/min : > 80

Check

speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : Rated speed rpm : 500
Del. quantity

cm3/1000 strokes : 50.0

Toterance

cm3/1000 strokes : + 1.5

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.40
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 88.0
Tolerance

cm3/1000 strokes : \leftarrow 5.0

Check tolerance

cm3/1000s. : +- 8.0

LOW IDLE

Rated speed rpm Del. quantity	:	300	
cm3/1000 strokes	:	10.0	
cm3/1000 strokes	: +-	2.0	
Check tolerance cm3/1000s.	: +-	4.5	
Spreed Tolerance			
cm3/1000 strokes Check tolerance	:	3.5	
cm3/1000s.	:	5.5	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.04.97 Test oil : ISO 4113

Combination No. : 0 400 864 074

Injection pump

Pump designation : PES4A85D410/3RS2638

EP type number : 0 410 884 950

Governor

Governer design: : RSV325...1150A0C2168

: -4L

Governer no. : 0 420 232 524

Cust. part No. :

Customer-spec. information

Customer : KHD

Motor : BF4L913T

Power KW : 60.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. $^{\circ}C$: 40 Tolerance $^{\circ}C$: + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.55
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 11.45

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 72.0

by lood strokes : 72.0

Tolerance

cm3/1000 strokes : + 0.5

Check tolerance

cm3/1000s. : +- 2.5

Spreed

Tolerance

cm3/1000 strokes : 3.0

+	
Check tolerance cm3/1000s. : 5.0	CONTROL LEVER
1	control lever position degree : 105.0
Rated speed rpm : 325	tolerance degree : +- 4.0
Rack travel in mm: 9.20	RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 10.40
Del. quantity	Rated speed rpm : 1195
cm3/1000 strokes : 19.0	Tolerance 1/min : +- 5
cm3/1000 strokes : +- 3.0	rack travel mm : 4.00
Check tolerance	Rated speed rpm : 1285
cm3/1000s. : + 5.0	Tolerance 1/min : + 15
Spreed	
Tolerance + cm3/1000 strokes : 2.5	rack travel mm : 0.85 Tolerance mm : +- 0.55
Check tolerance	Rated speed rpm : 1500
cm3/1000s. : 4.5	
4	rack travel mm : 4.00
	Rated speed rpm : 1310
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	
70.00	LOW IDLE
GUIDE SLEEVE POSITION +	
+	control lever
control lever	position degree : 80.0
position degree : - 3	tolerance degree : +- 4.0
Rated speed rpm : 800	
+	Setting point w/out bumper spring
Rack travel in mm: 0.50	Detail aread was 725
Tolerance mm : + 0.20	Rated speed rpm : 325 rack travel mm : 8.70
governor spring	Tolerance mm : + 0.10
pre-tension +	
click setting x : 4.00	Testing:
†	Datad annual war 200
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 325 rack travel mm : 9.20
TOLE LOAD DELIVERY AT TOLE LOAD STOT	Tolerance mm : +- 0.10
Rated speed rpm : 1150	
Aneroid pressure	rack travel mm : 2.00
hPa : - +	Rated speed rpm : 600
Del. quantity + cm3/1000 strokes : 72.0 +	Tolerance 1/min : +- 30
Tolerance +	Rated speed rpm : 100
cm3/1000 strokes : + 0.5	Mateu opecu i piii
Check tolerance	CRT mm min. : > 19.50
cm3/1000s. : + 2.5	
Spreed	TODOUE CONTROL
Tolerance + cm3/1000 strokes : 3.0 +	TORQUE CONTROL
Check tolerance	Rated speed rpm : 1150
cm3/1000s. : 5.0	rack travel mm : 11.45
+	Tolerance mm : +- 0.05

Rated speed rpm : 500 rack travel mm : 12.70 Tolerance mm : + 0.10

Rated speed rpm : 800 rack travel mm : 12.60 Tolerance mm : + 0.05

Rated speed rpm : 940 rack travel mm : 12.05 Tolerance mm : + 0.05

Start interlock

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 800

Del. quantity

cm3/1000 strokes : 72.5

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : ← 0.75

Del. quantity

cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes : + 5.0

Check tolerance

cm3/1000s. : +- 8.0

LOW IDLE

Rated speed rpm : 325 Del. quantity

cm3/1000 strokes : 19.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance

cm3/1000s. : +- 5.0

Spreed

Tolerance

cm3/1000 strokes : 2.5

Check tolerance

cm3/1000s. : 4.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 29.04.97

Test oil

: ISO 4113

Combination No.

: 0 400 866 125

Injection pump

Pump designation : PES6A85D410/3RS2761

EP type number : 0 410 886 895

Governor

Governer design. : RSV325...1150A3c810

Governer no.

: 0 420 232 608

Cust. part No.

Customer-spec. information

Customer

: KHD

Motor

: BF6L913

Power KW

: 112.0

TEST BENCH REQUIREMENTS

Inlet line

: 1.3

Test oil inlet

temp. °C

Tolerance °C

Overflow valve

: 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

: +- 1.5

Test lines

: 1 680 750 014

Outside diameter :

6.0

x inside diameter :

x length mm :

2.0

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm

2.55 : +- 0.05

Tolerance mm Check

: + - 0.10tolerance mm

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order

: 1-5-3-6-2-

: 4

Phasing : 0-69-129-189-240

Tolerance : +- 0.50

Check

tolerance "NW

: **←** 0.75

BASIC SETTING

Rated speed rpm

: 1150

Rack travel in mm : 12.15

Tolerance mm

: +- 0.05

Del. quantity

cm3/1000 strokes :

85.0

Tolerance

cm3/1000 strokes : +-

0.5

Check tolerance

cm3/1000s.

2.5

Spreed

Tolerance cm3/1000 strokes : 3.0 Check tolerance	t Check tolerance cm3/1000s. : 7.0
cm3/1000s. : 7.0	CONTROL LEVER
Rated speed rpm : 325	control lever position degree : 103.0 tolerance degree : +- 4.0
Rack travel in mm : 7.60 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 12.0 Tolerance	RATED SPEED rack travel mm : 11.10 Rated speed rpm : 1195 Tolerance 1/min : + 5
cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0 Spreed	rack travel mm : 4.00 Rated speed rpm : 1240 Tolerance 1/min : + 15
Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1410
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1255
	LOW IDLE
GUIDE SLEEVE POSITION	T COM IDEE
control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 67.0 tolerance degree : + 4.0
control lever position degree : - 3	control lever position degree : 67.0
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	control lever position degree : 67.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.10
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 67.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.10 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 7.60
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : 700 Del. quantity	control lever position degree : 67.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.10 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : 700	control lever position degree : 67.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.10 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 7.60 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 460
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : 700 Del. quantity cm3/1000 strokes : 85.0 Tolerance	control lever position degree : 67.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm: 7.10 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 7.60 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 460 Tolerance 1/min : + 30

Rated speed rpm rack travel mm Tolerance mm	: 1150 : 12.15 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 12.80 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 750 : 12.80 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 700 : 12.80 : ← 0.05
Pressure hPa Rated speed rom rack travel mm Tolerance mm	: - : 500 : 11.60 : +- 0.05
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 350 : 11.95 : ← 0.05
Start interlock	
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: 700 : 750

Aneroid pressure
hPa : 700
Rated speed rpm : 750
Del. quantity
cm3/1000 strokes : 88.0
Tolerance
cm3/1000 strokes : +- 1.5
Check tolerance
cm3/1000s. : +- 3.5

Aneroid pressure
hPa : --

Rated speed rpm :

500

Del. quantity
cm3/1000 strokes : 65.0
Tolerance
cm3/1000 strokes : +- 1.5
Check tolerance
cm3/1000s. : +- 3.5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 17.80 Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : +- 7.5 Check tolerance cm3/1000s. : +- 10.0

LOW IDLE

Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 12.0 Tolerance cm3/1000 strokes : ↔ 2.0 Check tolerance cm3/1000s. 4.0 Spreed Tolerance cm3/1000 strckes : 4.5 Check tolerance cm3/1000s.7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 03.06.96 : ISO 4113

Combination No. : 0 400 866 188

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410 230 025

Governor

Governer design. : RSV425...750A4C2213

: 5R

Governer no.

: 0 420 233 326

Cust. part No. :

Customer-spec. information

Customer : CDC

Motor

: 6 CT 8.3 L

Power KW : 135.0

TEST BENCH REQUIREMENTS

Inlet line : 2.0

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

: 1 680 750 014

Outside diameter : 6.0

Test Lines

x inside diameter : 2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

28.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : +- 0.05 Tolerance mm

Check

Firing order

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50

Tolerance mm : + 1.50

: 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

*NW after s.o.d. : 10.00

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 14.05

Tolerance mm : + 0.05

E19

1	Tolerance
Del. quantity	cm3/1000 strokes : +- 1.0
cm3/1000 strokes : 145.5	Check tolerance
Times 1000 strokes . 143.3	cm3/1000s. : +- 3.5
Tolopopo	
Tolerance	Spreed
cm3/1000 strokes : + 1.0 +	Tolerance
	cm3/1000 strokes : 4.0
Check tolerance +	Check tolerance
cm3/1000s. : $+$ 3.5 $+$	cm3/1000s. : 6.5
<u></u> +	
Spreed +	
+	
Tolerance +	CONTROL LEVER
cm3/1000 strokes : 4.0 +	
∔	control lever
Check tolerance +	position degree : 90.0
cm3/1000s. : 6.5	tolerance degree : +- 4.0
+	
	RATED SPEED
1	rack travel mm : 13.00
Rated speed rpm : 425	Rated speed rpm : 800
The conspeed in the second sec	Tolerance 1/min : +- 5
Rack travel in mm: 6.10	Total ance Training
Tolerance mm : + 0.10	rack travel mm : 4.00
1 - 1 - 1	
Del. quantity	
cm3/1000 strokes : 20.0 +	Tolerance 1/min : +- 15
Tolerance	0.00
cm3/1000 strokes : +- 2.0 +	rack travel mm : 0.85
Check tolerance +	Tolerance mm : + 0.55
cm3/1000s. : +- 4.5 +	Rated speed rpm : 950
Spreed +	
Tolerance +	rack travel mm : 4.00
cm3/1000 strokes : 6.0 +	Rated speed rpm : 845
Check tolerance	
cm3/1000s. : 8.0 +	
}	
}	
(B) SETTING OF INJECTION PUMP	LOW IDLE
WITH GOVERNOR	
+	
1	control lever
	position degree : 80.0
GUIDE SLEEVE POSITION	tolerance degree : + 4.0
00100 001001 1001	Total and day to
1	Setting point w/out bumper spring
control lever	country being wrode beinger opining
position degree : - 3	Rated speed rpm : 425
Rated speed rpm : 800 +	rack travel mm : 5.60
Rated speed rpm : 000 T	Tolerance mm : + 0.10
Rack travel in mm: 0.50	TOTAL GITTE HAIL . TO U. IU
	Taatium
Tolerance mm : + 0.20 +	Testing:
†	Dahad annud mass - /25
	Rated speed rpm : 425
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 6.10 Tolerance mm : + 0.10
<u> </u>	Tolerance mm : +- 0.10
Rated speed rpm : 750 +	
Aneroid pressure +	Rated speed rpm : 100
hPa : - +	
Del. quantity +	CRT mm min. :> 19.50
cm3/1000 strokes : 145.5 +	
CIID/ 1000 Strokes . (45.5	

TORQUE CONTROL

Rated speed rpm : 750 rack travel mm : 14.05 Tolerance mm : + 0.05

Start interlock

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 147.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0

LOW IDLE

Rated speed rpm : 425

Del. quantity

cm3/1000 strokes : 20.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.04.97 Test oil : ISO 4113

Combination No. : 0 400 866 219

Injection pump

Pump designation : PES6A95D12ORS2860 EP type number : 0 410 896 889

Governor

Governer design. : RSV410...1050A0C2260

: -3R

Governer no. : 0 420 233 344

Cust. part No. : 32 82 684

Customer—spec. information Customer : CUMMINS Motor : 6 BT Power KW : 113.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.15
Tolerance mm : → 0.05
Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing . 0-60-120-180-240

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 11.50

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 10.90 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 97.0

Tolerance +	Tolerance
cm3/1000 strokes : + 1.0	cm3/1000 strokes : +- 1.0
CIIDA 1000 STROKES : TO 1.0	
	Check tolerance
Check tolerance +	cm3/1000s. : +- 3.0
cm3/1000s, : + 3.0	Spreed
1	Tolerance
Spreed	cm3/1000 strokes : 3.5
+	· Check tolerance
Tolerance +	cm3/1000s. : 8.0
cm3/1000 strokes : 3.5	1. 0.0
Cliby 1000 Strokes . 3.3	
	•
Check tolerance +	
cm3/1000s. : 8.0 $+$	CONTROL LEVER
1	
	control lever
Ť	
. †	position degree : 90.0
Rated speed rpm : 430 +	tolerance degree : + 4.0
1	
Rack travel in mm: 7.20	RATED SPEED
Tolerance mm : + 0.10 +	rack travel mm : 9.90
Del. quantity +	Rated speed rpm : 1095
cm3/1000 strokes : 21.0	Tolerance 1/min : +- 5
Tolerance	10(010100171111111111111111111111111111
cm3/1000 strokes : + 2.0 +	rack travel mm : 4.00
Check tolerance +	Rated speed rpm : 1140
cm3/1000s. : +- 4.5 +	Tolerance 1/min : + 15
Spreed	
	mark Americal mm
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 5.5 +	Tolerance mm : +- 0.55
Check tolerance +	Rated speed rpm : 1330
cm3/1000s. : 9.0	
CIID7 10000:	rack travel mm : 4.00
Ť	
†	Rated speed rpm : 1175
(B) SETTING OF INJECTION PUMP +	
WITH GOVERNOR +	
112111 0010111011	
<u> </u>	
†	
‡	
<u></u>	LOW IDLE
GUIDE SLEEVE POSITION	LOW IDLE
GUIDE SLEEVE POSITION	LOW IDLE
GUIDE SLEEVE POSITION	
‡	control lever
control lever	control lever position degree : 70.0
control lever + position degree : -3	control lever
control lever + position degree : -3	control lever position degree : 70.0
control lever position degree : -3	control lever position degree : 70.0 tolerance degree : + 4.0
control lever position degree : -3 Rated speed rpm : 800	control lever position degree : 70.0
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring
control lever position degree : -3 Rated speed rpm : 800	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 430
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 430 rack travel mm : 6.70
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 430
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 430 rack travel mm : 6.70 Tolerance mm : + 0.10
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 430 rack travel mm : 6.70
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 430 rack travel mm : 6.70 Tolerance mm : + 0.10 Testing:
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 430 rack travel mm : 6.70 Tolerance mm : + 0.10 Testing:
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 1.75	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 430 rack travel mm : 6.70 Tolerance mm : + 0.10 Testing: Rated speed rpm : 430
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 430 rack travel mm : 6.70 Tolerance mm : + 0.10 Testing: Rated speed rpm : 430 rack travel mm : 7.20
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 1.75 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 430 rack travel mm : 6.70 Tolerance mm : + 0.10 Testing: Rated speed rpm : 430
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 1.75	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 430 rack travel mm : 6.70 Tolerance mm : + 0.10 Testing: Rated speed rpm : 430 rack travel mm : 7.20 Tolerance mm : + 0.10
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 1.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 430 rack travel mm : 6.70 Tolerance mm : + 0.10 Testing: Rated speed rpm : 430 rack travel mm : 7.20
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 1.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 430 rack travel mm : 6.70 Tolerance mm : + 0.10 Testing: Rated speed rpm : 430 rack travel mm : 7.20 Tolerance mm : + 0.10 rack travel mm : 2.00
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 1.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1100	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 430 rack travel mm : 6.70 Tolerance mm : + 0.10 Testing: Rated speed rpm : 430 rack travel mm : 7.20 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 590
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 1.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1100 Del. quantity	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 430 rack travel mm : 6.70 Tolerance mm : + 0.10 Testing: Rated speed rpm : 430 rack travel mm : 7.20 Tolerance mm : + 0.10 rack travel mm : 2.00
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 1.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1100	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 430 rack travel mm : 6.70 Tolerance mm : + 0.10 Testing: Rated speed rpm : 430 rack travel mm : 7.20 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 590

Rated speed rpm : 100 Tolerance cm3/1000 strokes : +- 1.0CRT mm min. : > 19.50Check tolerance cm3/1000s. : +-3.0 TORQUE CONTROL Aneroid pressure Rated speed rpm 1050 Rated speed rpm 500 rack travel mm 10.90 Del. quantity cm3/1000 strokes : 67.0 Tolerance mm : +- 0.05 Tolerance : 450 Rated speed rpm cm3/1000 strokes : \leftarrow 1.0 rack travel mm 11.80 Check tolerance : +- 0.10 Tolerance mm cm3/1000s. : +- 3.0 Rated speed rpm : 550 rack travel mm : 11.50 Tolerance mm : + - 0.10STARTING FUEL DELIVERY Rated speed rpm 100 ANEROID/ALTITUDE rack travel mm : 14.00 COMPENSATOR TEST Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 115.0 Tolerance SETTING cm3/1000 strokes : \leftarrow 7.5 Rated speed rpm : 450 Check tolerance Pressure hPa 1100 cm3/1000s. : +- 10.0 : 11.80 rack travel mm Tolerance mm : +- 0.05 Pressure hPa Rated speed rpm 500 LOW IDLE 9.80 rack travel mm : + 0.10Tolerance mm Rated speed rpm : 430 Del. quantity cm3/1000 strokes : 21.0 **MEASUREMENT** Tolerance 450 cm3/1000 strokes : \leftarrow 2.0 Rated speed rpm : Check tolerance 420 cm3/1000s. Pressure hPa : + 4.5 10.10 rack travel mm Spreed : +- 0.10 Tolerance mm Tolerance cm3/1000 strokes : 5.5 Pressure hPa Check tolerance rack travel mm 10.95 cm3/1000s. 9.0 Tolerance mm : +- 0.05 Start interlock End of test specification sheet FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1100 hPa

Rated speed rpm

cm3/1000 strokes : 98.0

Del. quantity

450

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30,04,97 Edition Test oil : ISO 4113

Combination No. : 0 400 874 255

Injection pump

Pump designation : PES4A95D410RS2685 EP type number : 0 410 894 996

Governor

Governer design. : RSV400...1000A1C2278

Governer no. : 0 420 232 602

Cust. part No. : 9275740

Customer-spec. information Customer : LIEBHERR Motor : D904 T Power KW : 96.0

TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 419 992 198

1.5 Inlet press. bar :

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0 x inside diameter : 2.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 2.75 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

: 1-3-4-2 Firing order

: 0-90-180-270 Phasing

Tolerance : + 0.50Check

tolerance °NW : + 0.75

Beginning of delivery differende

and maximum rack

9.00 travel Tolerance mm : +- 0.50 Difference * CS

BASIC SETTING

Rated speed rpm 1000

Rack travel in mm : 13.45 Tolerance mm : +- 0.05

Del. quantity

129.0 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance cm3/1000s.	: + 3.0	Check tolerance cm3/1000s. : +- 3.0 Spreed
Spreed	<u> </u>	Tolerance cm3/1000 strokes : 3.5 Check tolerance
Tolerance cm3/1000 strokes	: 3.5	cm3/1000s. : 8.0
Check tolerance cm3/1000s.	8.0	CONTROL LEVER
	+	control lever
Rated speed rpm	: 400	position degree : 98.0 tolerance degree : + 4.0
Rack travel in mm : Tolerance mm Del. guantity	: 7.20 : +- 0.10	RATED SPEED rack travel mm : 12.45 Rated speed rpm : 1045
cm3/1000 strokes Tolerance	+	Tolerance 1/min : + 5
cm3/1000 strokes Check tolerance	: ← 2.0 : ← 4.5	rack travel mm : 4.00 Rated speed rpm : 1080 Tolerance 1/min : +- 15
cm3/1000s. Spreed Tolerance	; 	rack travel mm : 0.85
cm3/1000 strokes :	: 5.5	Tolerance mm : + 0.55 Rated speed rpm : 1250
	9.0	rack travel mm : 4.00
(B) SETTING OF INJE	ECTION PUMP	Rated speed rpm : 1110
GUIDE SLEEVE POSITI	ION	LOW IDLE
control lever position degree Rated speed rpm	: - 3 : 800	<pre>control lever position degree : 69.0 tolerance degree : +- 4.0</pre>
Rack travel in mm	+	Setting point w/out bumper spring
Tolerance mm		Rated speed rpm : 400 rack travel mm : 6.70
governor spring pre-tension	†	Tolerance mm : + 0.10
click setting x	2.25	Testing: Rated speed rpm : 400
FULL LOAD DELIVERY	+	Rated speed rpm : 400 rack travel mm : 7.20 Tolerance mm : + 0.10
Rated speed rpm : Aneroid pressure	: 1000	rack travel mm : 2.00
hPa Del. quantity cm3/1000 strokes	129.0	Rated speed rpm : 570 Tolerance 1/min : +- 30
Tolerance cm3/1000 strokes	+	TORQUE CONTROL

Rated speed rpm	: 1000
rack travel mm Tolerance mm	: 13.45 : ← 0.05
Rated speed rpm rack travel mm	: 500
Tolerance mm	: 13.50 : ← 0.10
TO COT GITTO THE	
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm	: 500
Pressure hPa	: 1000
rack travel mm	: 13.50
Tolerance mm	:
Pressure hPa Rated speed rpm	: – : 500
rack travel mm	
Tolerance mm	: +- 0.10
MEASUREMENT	1.12
Rated speed rpm	: 500
Pressure hPa	: 470
rack travel mm	: 13.10
Tolerance mm	: +- 0.05
Pressure hPa	: 410
rack travel mm	: 12.70 : + 0.10
Tolerance mm	: ← 0.10
Start interlock	
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure	
hPa Retad speed row	: - : 500
Rated speed rpm Del. quantity	.)()(
cm3/1000 strokes	: 119.0
Tolerance	
cm3/1000 strokes	: ← 2.0
Check tolerance cm3/1000s.	: +- 4.0
	•
Aneroid pressure	
hPa Rated speed rpm	500
Del. quantity	• 200
cm3/1000 strokes	• 0/. n

Tolerance cm3/1000 strokes : +- 1.0Check tolerance cm3/1000s. 3.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : **←** 0.75 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : +- 7.5Check tolerance cm3/1000s.: +- 10.0 LOW IDLE Rated speed rpm : 400 Del. quantity cm3/1000 strokes : 20.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. : +-4.5 Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. 9.0

End of test specification sheet

cm3/1000 strokes :

94.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.04.97 Test oil : ISO 4113

Combination No. : 0 400 876 337

Injection pump

Pump designation : PES6A90D410RS2710 EP type number : 0 410 896 082

Governor

Governer design. : RSV350...1400A0C1135

: -2L

Governer no. : 0 420 232 473

Cust. part No. :

Customer-spec. information

Customer : MB-NFZ Motor : CM 366 Power KW : 96.0

TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.30 Tolerance mm : + 0.05

Check

tolerance min : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 10.85

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 61.0

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s. : + 2.5

Spreed

Tolerance cm3/1000 strokes : 3.0	+ Check tolerance - cm3/1000s. : 7.0
Check tolerance cm3/1000s. : 7.0	İ
	CONTROL LEVER
Rated speed rpm : 350	<pre>control lever position degree : 113.0 tolerance degree : + 4.0</pre>
Rack travel in mm : 9.10 Tolerance mm : + 0.10	RATED SPEED
Del. quantity cm3/1000 strokes : 12.0 Tolerance	rack travel mm : 0.85 Tolerance mm : + 0.55
cm3/1000 strokes : +- 2.0 Check tolerance	Rated speed rpm : 1630
cm3/1000s. : +- 4.0 Spreed Tolerance	rack travel mm : 4.00 Rated speed rpm : 1530
cm3/1000 strokes : 4.5 Check tolerance	rack travel mm : 9.80 Rated speed rpm : 1445
cm3/1000s. : 7.0	Tolerance 1/min : + 5
(B) SETTING OF INJECTION PUMP	ASSEMBLY GOVERNOR SETTING
WITH GOVERNOR	Rated speed rpm : 1435 rack travel mm : 9.80
GUIDE SLEEVE POSITION	Rated speed rpm : 1479 Tolerance 1/min : + 4 rack travel mm : 4.00
control lever position degree : - 3 Rated speed rpm : 800	Rated speed rpm : 1436 rack travel mm : 9.80
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Rated speed rpm : 1480 Tolerance 1/min : + 4 rack travel mm : 4.00
governor spring pre-tension	+ Rated speed rpm : 1437
click setting x : 6.00	+ Rated speed rpm : 1437 + rack travel mm : 9.80
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 1481 Tolerance 1/min : +- 4
Rated speed rpm : 1400 Aneroid pressure hPa : -	rack travel mm : 4.00
Del. quantity cm3/1000 strokes : 61.0	Rated speed rpm : 1438 rack travel mm : 9.80
Tolerance cm3/1000 strokes : +- 0.5 Check tolerance	Rated speed rpm : 1482 Tolerance 1/min : + 4
cm3/1000s. : + 2.5 Spreed Tolerance	rack travel mm · : 4.00
cm3/1000 strokes : 3.0	Rated speed rpm : 1439 rack travel mm : 9.80

Rated speed rpm Tolerance 1/min rack travel mm	
Rated speed rpm rack travel mm	: 1440 : 9.80
Rated speed rpm Tolerance 1/min rack travel mm	: 1484 : +- 4 : 4.00
LOW IDLE	
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 9.10 : ← 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 500
Rated speed rpm	: 100
CRT mm min.	: > 19.50
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1400 : 10.85 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 750 : 11.90 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 950 : 11.55 : ← 0.15
Start interlock	
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa	: -

500

Del. quantity cm3/1000 strokes Tolerance	: 51.5
cm3/1000 strokes	: ← 1.5
Check tolerance cm3/1000s.	:
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 17.10 : + 0.20 : 83.0 : + 7.5 : + 10.0
LOW IDLE	
Rated speed rpm Del. quantity	: 350
cm3/1000 strokes	: 12.0

End of test specification sheet

2.0

4.0

4.5

7.0

Tolerance

Spreed Tolerance

cm3/1000 strokes : +-

Check tolerance cm3/1000s.

cm3/1000 strokes : Check tolerance cm3/1000s. :

Rated speed rpm :

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30.04.97 Edition : ISO 4113 Test oil

Combination No. : 0 400 876 397

Injection pump

Pump designation : PES6A95D410RS2797 EP type number : 0 410 896 900

Governor

Governer design. : RSV350...1400A0C2006

: -8L

: 0 420 232 580 Governer no.

Cust. part No. :

Customer-spec. information Customer : MB-NFZ Motor : OM 366 Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm ; 3.25 Tolerance mm : + 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1380

Rack travel in mm : 10.15 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 62.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

: +- 3.0 cm3/1000s.

Spreed

Tolerance cm3/1000 strokes : 3.5	Check tolerance cm3/1000s. : 8.0
Check tolerance cm3/1000s. : 8.0	CONTROL A FUED
 ‡	CONTROL LEVER
Rated speed rpm : 350	<pre>control lever position degree : 111.0 tolerance degree : +- 4.0</pre>
Rack travel in mm: 8.10 Tolerance mm: + 0.10	ASSEMBLY GOVERNOR SETTING
Del. quantity cm3/1000 strokes : 8.0 Tolerance	Rated speed rpm : 1430
cm3/1000 strokes : + 2.0 Check tolerance	rack travel mm : 9.10
cm3/1000s. : +- 4.5 Spreed +-	Rated speed rpm : 1496 Tolerance 1/min : +- 6
Tolerance cm3/1000 strokes : 5.5	rack travel mm : 4.00
Check tolerance cm3/1000s. : 9.0	rack travel mm : 1.00 Tolerance mm : + 0.70 Rated speed rpm : 1650
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1431
+	rack travel mm : 9.10
GUIDE SLEEVE POSITION	Rated speed rpm : 1497 Tolerance 1/min : +- 6 rack travel mm : 4.00
control lever position degree : -3 Rated speed rpm : 800	rack travel mm : 1.00 Tolerance mm : +- 0.70 Rated speed rpm : 1650
Rack travel in mm: 0.65 Tolerance mm: + 0.35	Rated speed rpm : 1432 rack travel mm : 9.10
governor spring pre-tension click setting x : 4.50	Rated speed rpm : 1498 Tolerance 1/min : +- 6 rack travel mm : 4.00
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 1.00
Rated speed rpm : 1380 Aneroid pressure	Tolerance mm : +- 0.70 Rated speed rpm : 1650
hPa : - + Del. quantity + cm3/1000 strokes : 62.0 +	Rated speed rpm : 1433 rack travel mm : 9.10
Tolerance + cm3/1000 strokes : + 1.0 + Check tolerance +	Rated speed rpm : 1499 Tolerance 1/min : +- 6
cm3/1000s. : + 3.0 + Spreed	rack travel mm : 4.00
Tolerance cm3/1000 strokes : 3.5	rack travel mm : 1.00 Tolerance mm : + 0.70 Rated speed rpm : 1650

		† Tolerance mm : +- 0.15
Rated speed rpm rack travel mm	: 9.10	Rated speed rpm : 630 rack travel mm : 11.05 Tolerance mm : + 0.15
Rated speed rpm Tolerance 1/min rack travel mm	: +- 6 : 4.00	Rated speed rpm : 925 rack travel mm : 10.55 Tolerance mm : + 0.15
rack travel mm Tolerance mm Rated speed rpm	: 1.00 : ← 0.70 : 1650	Start interlock
Rated speed rpm rack travel mm		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm Tolerance 1/min rack travel mm	: 6	Aneroid pressure hPa : - Rated speed rpm : 400 Del. quantity
rack travel mm Tolerance mm Rated speed rpm	: 1.00 : +- 0.70 : 1650	+ cm3/1000 strokes : 50.5 + Tolerance + cm3/1000 strokes : + 2.0
LOW IDLE		+ Check tolerance + cm3/1000s. : +- 4.0
control lever position degree tolerance degree		+ Aneroid pressure + hPa : - + Rated speed rpm : 630 + Del. quantity + cm3/1000 strokes : 51.0
Testing:	; + 4.0	Tolerance cm3/1000 strokes : +- 2.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 8.10	cm3/1000s. : +- 4.0 Aneroid pressure
rack travel mm Rated speed rpm Tolerance 1/min	: 510	hPa : - Rated speed rpm : 925 Del. quantity cm3/1000 strokes : 59.0
Rated speed rpm	: 100	+ Tolerance + cm3/1000 strokes : +- 2.0 + Check tolerance
CRT mm min. SET IDLE AUXILIAR		cm3/1000s. : + 4.0
		OTABITANO SUSI DEI TUEDY
Rated speed rpm	: 100	+ STARTING FUEL DELIVERY + Rated speed rpm : 100
TORQUE CONTROL		rack travel mm : 14.80 Tolerance mm : + 0.20
Rated speed rpm rack travel mm Tolerance mm	: 10.15	rack travel mm : 14.80 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : + 7.5 Check tolerance
Rated speed rpm rack travel mm	: 400 : 11.45	Check tolerance + cm3/1000s. : + 10.0

LOW IDLE

:	3 50
:	8.0
: +-	2.0
: +-	4.5
:	5.5
:	9.0
	;

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.04.97 Test oil : ISO 4113

Combination No. : 0 400 876 404

Injection pump

Pump designation : PES6A95D41ORS2835 EP type number : 0 410 896 896

Governor

Governer design. : RSV650...1050A8C2263

: L

Governer no. : 0 420 232 583

Cust. part No. : 87 800 648

Customer-spec. information

Customer : FNH-GEOTECH

Motor : 7.5 L Power KW : 149.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.60
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

Tolerance : \leftarrow 0.50

Check

tolerance *NW : \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 14.50 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 151.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance : 3.5	+ Check tolerance + cm3/1000s. : 8.0
Check tolerance cm3/1000s. : 8.0	+
	+ CONTROL LEVER
Rated speed rpm : 650	control lever position degree : 88.0 tolerance degree : + 4.0
Rack travel in mm : 5.40 Tolerance mm : + 0.10	ASSEMBLY COVERNOR SETTING
Del. quantity cm3/1000 strokes : 23.5 Tolerance	ASSEMBLY GOVERNOR SETTING Rated speed rpm : 1078
cm3/1000 strokes : +- 2.0 Check tolerance	rack travel mm : 12.10
cm3/1000s. : +- 4.5 Spreed	Rated speed rpm : 1118 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : 5.5	rack travel mm : 4.00
Check tolerance cm3/1000S. : 9.0	+ rack travel mm : 0.85 + Tolerance mm : + 0.55
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1225
WITH GOVERNOR	Rated speed rpm : 1079 rack travel mm : 12.10
GUIDE SLEEVE POSITION	Rated speed rpm : 1119 Tolerance 1/min : + 5 rack travel mm : 4.00
control lever position degree : - 3 Rated speed rpm : 800	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1225
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Rated speed rpm : 1080 rack travel mm : 12.10
governor spring pre-tension click setting x : 3.00	Rated speed rpm : 1120 Tolerance 1/min : +- 5 rack travel mm : 4.00
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 0.85
Rated speed rpm : 750 Aneroid pressure	Tolerance mm : + 0.55 Rated speed rpm : 1225
hPa : 1200 Del. quantity	Rated speed rpm : 1081
cm3/1000 strokes : 151.5 Tolerance	rack travel mm : 12.10
cm3/1000 strokes : + 1.0 Check tolerance	Rated speed rpm : 1121 Tolerance 1/min : + 5
cm3/1000s. : +- 3.0 Spreed	rack travel mm : 4.00
Tolerance cm3/1000 strokes : 3.5	+ rack travel mm : 0.85 + Tolerance mm : + 0.55 + Rated speed rpm : 1225

		+ Rated speed rpm : 1025
Rated speed rpm rack travel mm		rack travel mm : 12.80 Tolerance mm : + 0.10
Rated speed rpm Tolerance 1/min	: 1122	Rated speed rpm : 1025 rack travel mm : 13.30 Tolerance mm : + 0.10
rack travel mm		+ Rated speed rpm : 975
Tolerance mm Rated speed rpm		+ rack travel mm : 13.65 + Tolerance mm : +- 0.15
Rated speed rpm rack travel mm		ANEROID/ALTITUDE COMPENSATOR TEST
Rated speed rpm Tolerance 1/min	: + 5	SETTING
rack travel mm		+ Rated speed rpm : 500 + Pressure hPa : 1200 + rack travel mm : 14.50
Tolerance mm Rated speed rpm	: +- 0.55	Tolerance mm : +- 0.10
LOW IDLE		+ Pressure hPa : - + Rated speed rpm : 500 + rack travel mm : 8.90 + Tolerance mm : + 0.10
control lever position degree tolerance degree		MEASUREMENT Rated speed rpm : 500
Setting point w/o		Pressure hPa : 325 rack travel mm : 10.70
Rated speed rpm rack travel mm	: 4.90	Tolerance mm : +- 0.20
Tolerance mm Testing:	: +- 0.10	+ Pressure hPa : 550 + rack travel mm : 13.55 + Tolerance mm : +- 0.05
Rated speed rpm rack travel mm Tolerance mm		Start interlock
rack travel mm	: 2.00	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm Tolerance 1/min		+ Aneroid pressure + hPa : -
Rated speed rpm		Rated speed rpm : 500 Del. quantity
CRT mm min.	: > 19.50	+ cm3/1000 strokes : 77.0 + Tolerance + cm3/1000 strokes : +- 2.0
TORQUE CONTROL		Check tolerance cm3/1000s. : +- 4.5
Rated speed rpm rack travel mm Tolerance mm	: 750 : 14.50 : + 0.10	<u></u>
		+ STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 200.0
Tolerance
cm3/1000 strokes : + 10.0
Check tolerance
cm3/1000s. : + 13.0

LOW IDLE

Rated speed rpm 650 Del. quantity cm3/1000 strokes : 23.5 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance 5.5 cm3/1000 strokes : Check tolerance 9.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 30.04.97 : ISO 4113

Combination No. : 0 400 876 405

Injection pump

EP type number

Pump designation : PES6A95D41DRS2835 : 0 410 896 896

Governor

Governer design. : RSV400...1050A2C2263

: -8L

Governer no.

: 0 420 232 615

Cust. part No. :

Customer-spec. information Customer

: FNH-GEOTECH

Matar

: 7.5 L-8640 Trak

Power KW

: 131.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve

: 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

2.60 Prestroke mm

: +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

Tolerance : **←** 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.20

: + - 0.10Tolerance mm

Del. quantity

cm3/1000 strokes : 110.0

Tolerance

cm3/1000 strokes : +-

2.0

Check tolerance

cm3/1000s. : +- 4.5

Rated speed rpm : 450	+ Rated speed rpm : 1093 - rack travel mm : 11.20
Rack travel in mm : 5.70 Tolerance mm : + 0.10	Rated speed rpm : 1168
Del. quantity cm3/1000 strokes : 15.0 Tolerance	Tolerance 1/min : + 5 rack travel mm : 4.00
cm3/1000 strokes : + 2.0 Check tolerance	rack travel mm : 0.85 Tolerance mm : + 0.55
cm3/1000s. : +- 4.5 Spreed Tolerance	Rated speed rpm : 1300
cm3/1000 strokes : 3.5 Check tolerance	Rated speed rpm : 1094 rack travel mm : 11.20
cm3/1000S. : 9.0	Rated speed rpm : 1169 Tolerance 1/min : + 5
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00
GUIDE SLEEVE POSITION	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1300
control lever	Rated speed rpm : 1095 rack travel mm : 11.20
Rated speed rpm : 800	Rated speed rpm : 1170 Tolerance 1/min : + 5 rack travel mm : 4.00
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	+ rack travel mm : 4.00 + rack travel mm : 0.85
governor spring pre-tension click setting x : 3.50	Tolerance mm : + 0.55 Rated speed rpm : 1300
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 1096 rack travel mm : 11.20
Rated speed rpm : 1050 Aneroid pressure hPa : 1200 Del. quantity	Rated speed rpm : 1171 Tolerance 1/min : + 5 rack travel mm : 4.00
cm3/1000 strokes : 110.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1300
cm3/1000s. : +- 4.5	Rated speed rpm : 1097 rack travel mm : 11.20
CONTROL LEVER control lever	Rated speed rpm : 1172 Tolerance 1/min : + 5 rack travel mm : 4.00
position degree : 101.0 tolerance degree : + 4.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1300
ASSEMBLY GOVERNOR SETTING	+

Rated speed rpm rack travel mm		†	
		ANEROID/ALTITUDE	
Rated speed rpm Tolerance 1/min		+ COMPENSATOR TEST	
rack travel mm	: 4.00	+ SETTING	
rack travel mm	: 0.85	+	500
Tolerance mm Rated speed rpm	: +- 0.55 : 1300	+ Rated speed rpm : + Pressure hPa :	500 1200
			14.10 ⊢ 0.10
FOM IDTE		+ Pressure hPa :	_
		Rated speed rpm :	500
control lever position degree	: 77.0	rack travel mm : Tolerance mm :	10.25 0.05
tolerance degree	: ← 4.0	+ + MEASUREMENT	
Setting point w/o	out bumper spring	Rated speed rpm :	500
Rated speed rpm		+	
rack travel mm Tolerance mm	: 5.20 : +- 0.10	+ Pressure hPa : + rack travel mm :	500 11.55
Testing:		† Tolerance mm : +	- 0.20
_	450	Pressure hPa :	800
Rated speed rpm rack travel mm	: 450 : 5.70	+ rack travel mm : + Tolerance mm : d	13.55 0.05
Tolerance mm	: ← 0.10	+ Start interlock	
rack travel mm		+	
Rated speed rpm	: 600		
Rated speed rpm Tolerance 1/min	: 600 : + 30	FUEL DELIVERY CHARACT	
Rated speed rpm Tolerance 1/min Rated speed rpm	: 600 : + 30 : 100	FUEL DELIVERY CHARACT Aneroid pressure	
Rated speed rpm Tolerance 1/min	: 600 : + 30	FUEL DELIVERY CHARACT	TERISTICS 1200 750
Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min.	: 600 : + 30 : 100	FUEL DELIVERY CHARACT Aneroid pressure hPa : Rated speed rpm : Del. quantity	1200 750
Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. TORQUE CONTROL	: 600 : + 30 : 100 : > 19.50	FUEL DELIVERY CHARACT Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance	1200 750 137.5
Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. TORQUE CONTROL Rated speed rpm	: 600 : + 30 : 100 : > 19.50 	FUEL DELIVERY CHARACT Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : +	1200 750 137.5 1.0
Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. TORQUE CONTROL	: 600 : + 30 : 100 : > 19.50 	FUEL DELIVERY CHARACT Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : + Check tolerance cm3/1000s. : +	1200 750 137.5 1.0
Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 600 : + 30 : 100 : > 19.50 : 1050 : 12.20 : + 0.10 : 750	FUEL DELIVERY CHARACT Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : + Check tolerance cm3/1000s. : + Spreed Tolerance	1200 750 137.5 1.0 3.0
Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm	: 600 : + 30 : 100 : > 19.50 : 1050 : 12.20 : + 0.10 : 750 : 14.10	FUEL DELIVERY CHARACT Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : + Check tolerance cm3/1000s. : + Spreed Tolerance cm3/1000 strokes :	1200 750 137.5 1.0 3.0
Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 600 : + 30 : 100 : > 19.50 : 1050 : 12.20 : + 0.10 : 750 : 14.10 : + 0.10	FUEL DELIVERY CHARACT Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : + Check tolerance cm3/1000s. : + Spreed Tolerance	1200 750 137.5 1.0 3.0
Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 600 : + 30 : 100 : > 19.50 : 1050 : 12.20 : + 0.10 : 750 : 14.10 : + 0.10	FUEL DELIVERY CHARACT Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : + Check tolerance cm3/1000s. : + Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Check tolerance	1200 750 137.5 1.0 3.0
Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 600 : + 30 : 100 : > 19.50 : 1050 : 12.20 : + 0.10 : 750 : 14.10 : + 0.10	FUEL DELIVERY CHARACT Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : + Check tolerance cm3/1000s. : + Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Aneroid pressure hPa :	1200 750 137.5 1.0 3.0 3.5 6.0
Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 600 : + 30 : 100 : > 19.50 : 12.20 : + 0.10 : 750 : 14.10 : + 0.10 : 925 : 13.25 : + 0.15 : 1050	FUEL DELIVERY CHARACT Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : + Check tolerance cm3/1000s. : + Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Aneroid pressure hPa : Rated speed rpm : Del. quantity	1200 750 137.5 - 1.0 - 3.0 3.5 6.0
Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 600 : + 30 : 100 : > 19.50 : 12.20 : + 0.10 : 750 : 14.10 : + 0.10 : 925 : 13.25 : + 0.15 : 1050 : 11.70	FUEL DELIVERY CHARACT Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Tolerance cm3/1000 strokes : Tolerance	1200 750 137.5 - 1.0 - 3.0 3.5 6.0
Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 600 : + 30 : 100 : > 19.50 : 12.20 : + 0.10 : 750 : 14.10 : + 0.10 : 925 : 13.25 : + 0.15 : 1050 : 11.70	FUEL DELIVERY CHARACT Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000s. :+ Check tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Check tolerance cm3/1000s. :+ Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Tolerance cm3/1000 strokes :	1200 750 137.5 - 1.0 - 3.0 3.5 6.0
Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 600 : + 30 : 100 : > 19.50 : 12.20 : + 0.10 : 750 : 14.10 : + 0.10 : 925 : 13.25 : + 0.15 : 1050 : 11.70	FUEL DELIVERY CHARACT Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Tolerance cm3/1000 strokes : Tolerance	1200 750 137.5 - 1.0 - 3.0 3.5 6.0 - 500 90.0 - 1.0

STARTING FUEL DELIVERY

Rated speed rpm 100 20.25 rack travel mm Tolerance mm : **←** 0.75 Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : +- 13.0

LOW IDLE

450 Rated speed rpm Del. quantity cm3/1000 strokes : 15.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance 3.5 cm3/1000 strokes : Check tolerance cm3/1000s. 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.04.97 Test oil : ISO 4113

Combination No. : 0 400 876 406

Injection pump

Pump designation : PES6A95D410RS2835 EP type number : 0 410 896 896

Governor

Governer design. : RSV400...1050A2C2263

: -9L

Governer no. : 0 420 232 616

Cust. part No. :

Customer-spec. information

Customer : FNH-GEOTECH

Motor : 7.5 L-8740 Trak

Power KW : 142.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.60 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 13.45

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 132.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed

Tolerance cm3/1000 strokes : 3.5	Check tolerance cm3/1000s. : 6.0
Check tolerance cm3/1000s. : 6.0	
	CONTROL LEVER
Rated speed rpm : 450	control lever position degree : 96.0 tolerance degree : + 4.0
Rack travel in mm: 5.10 Tolerance mm: + 0.10 Del. quantity	+ RATED SPEED + rack travel mm : 12.40
cm3/1000 strokes : 14.0 Tolerance	+ - rack travel mm : 4.00
cm3/1000 strokes : + 2.0 Check tolerance	+ + rack travel mm : 0.85
cm3/1000s. : + 4.5 - 5 Spreed - 70lerance - 5	Tolerance mm : + 0.55 Rated speed rpm : 1300
cm3/1000 strokes : 3.5 Check tolerance	
cm3/1000s. : 9.0	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 70.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION	Testing:
sentral lever - 3 - Rated speed rpm : 800 -	Rated speed rpm : 450 rack travel mm : 5.10 Tolerance mm : +- 0.10
Rack travel in mm: 0.50 -	rack travel mm : 2.00 Rated speed rpm : 620
Tolerance mm : + 0.20	Tolerance 1/min : +- 30
governor spring - pre-tension -	Rated speed rpm : 100
click setting x : 3.50	CRT mm min. : > 19.50
	+
FULL LOAD DELIVERY AT FULL LOAD STOP	TORQUE CONTROL
Rated speed rpm : 1050	TORQUE CONTROL Rated speed rpm : 1050
Rated speed rpm : 1050 - Aneroid pressure - hPa : 1200 -	TORQUE CONTROL
Rated speed rpm : 1050 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 132.0	TORQUE CONTROL Rated speed rpm : 1050 rack travel mm : 13.45 Tolerance mm : + 0.05 Rated speed rpm : 650
Rated speed rpm : 1050 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 132.0 Tolerance cm3/1000 strokes : + 2.0	TORQUE CONTROL Rated speed rpm : 1050 rack travel mm : 13.45 Tolerance mm : + 0.05 Rated speed rpm : 650
Rated speed rpm : 1050 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 132.0 Tolerance	TORQUE CONTROL Rated speed rpm : 1050 rack travel mm : 13.45 Tolerance mm : + 0.05 Rated speed rpm : 650 rack travel mm : 15.10

12.95 rack travel mm Tolerance mm : + 0.05ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm 500 Pressure hPa 1200 15.10 rack travel mm : +- 0.10 Tolerance mm Pressure hPa 500 Rated speed rpm rack travel mm 10.40 Tolerance mm : **←** 0.05 **MEASUREMENT** 500 Rated speed rpm 650 Pressure hPa 12.15 rack travel mm : +- 0.20 Tolerance mm 900 Pressure hPa 14.05 rack travel mm Tolerance mm : +- 0.05 Start interlock FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 1200 650 Rated speed rpm Del. quantity cm3/1000 strokes : 165.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. : +-3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Aneroid pressure hPa 500 Rated speed rpm Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 strokes : +-1.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 195.0

Tolerance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

cm3/1000s. : +- 13.0

LOW IDLE

Rated speed rpm : 450
Del. quantity
cm3/1000 strokes : 14.0
Tolerance
cm3/1000 strokes : + 2.0

Check tolerance cm3/1000s. : +- 4.5

Spreed Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 9.0

End of test specification sheet

Check tolerance

cm3/1000s.

3.5

: +-

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30.04.97 Edition : ISO 4113 Test oil

Combination No. : 0 400 876 428

Injection pump

Pump designation : PES6A85D41ORS2761-1

EP type number : 0 410 886 894

Governor

Governer design. : RSV325...1200A0C816L

Governer no. : 0 420 232 614

Cust. part No. : 0 423 1261 KY0150

Customer—spec. information Customer : KHD : BF6L913 Motor

Power KW : 109.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar : +- 1.5 Tolerance bar

Test Lines : 1 680 750 014

Outside diameter : 6.0 x inside diameter: 2.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : **←** 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

Tolerance : **←** 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 11.80

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 82.0

Tolerance

cm3/1000 strokes : +-0.5

Check tolerance

: +- 2.5 cm3/1000s.

Spreed

Tolerance cm3/1000 strokes : 3.0	Check tolerance cm3/1000s. : 7.0
Check tolerance cm3/1000s. : 7.0	CONTROL LEVER
Rated speed rpm : 325	<pre>control lever position degree : 100.0 tolerance degree : +- 4.0</pre>
· · · · · ·	_
Rack travel in mm: 8.00 + Tolerance mm: + 0.10 + Del. quantity	RATED SPEED rack travel mm : 10.80 Rated speed rpm : 1245
cm3/1000 strokes : 16.0	Tolerance 1/min : + 5
Tolerance cm3/1000 strokes : + 2.0 + Check tolerance +	rack travel mm : 4.00 Rated speed rpm : 1300
cm3/1000s. : +- 4.0 Spreed	Tolerance 1/min : + 15
Tolerance cm3/1000 strokes : 4.5	rack travel mm : 0.85 Tolerance mm : +- 0.55
Check tolerance cm3/1000s. : 7.0	Rated speed rpm : 1460
cm3/1000s. : /.U	rack travel mm : 4.00 Rated speed rpm : 1320
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
GUIDE SLEEVE POSITION	LOW IDLE
-	control lever
control lever + position degree : -3 +	position degree : 73.0 tolerance degree : +- 4.0
Rated speed rpm : 800	Setting point w/out bumper spring
Rack travel in mm: 0.50	
Tolerance mm : + 0.20	Rated speed rpm : 325 rack travel mm : 7.50
governor spring + pre-tension +	Tolerance mm : +- 0.10
click setting x : 4.00	Testing:
	Rated speed rpm : 325
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 8.00 Tolerance mm : +- 0.10
Rated speed rpm : 1200 +	rack travel mm : 2.00
hPa : - +	Rated speed rpm : 460 Tolerance 1/min : +- 30
Del. quantity cm3/1000 strokes : 82.0	Toterance Trimin : — So
Tolerance cm3/1000 strokes : +- 0.5	TORQUE CONTROL
Check tolerance cm3/1000s. : + 2.5 Spreed	Rated speed rpm : 1200 rack travel mm : 11.80
Tolerance + cm3/1000 strokes : 3.0 +	Tolerance mm : +- 0.05

Rated speed rpm : 600 rack travel mm : 11.85 Tolerance mm : + 0.05

Start interlock

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 18.50 Tolerance mm : + 0.20 Del. quantity

cm3/1000 strokes : 125.0

Tolerance

cm3/1000 strokes : \leftarrow 7.5

Check tolerance

cm3/1000s. : + 10.0

LOW IDLE

Rated speed rpm : 325
Del. quantity

cm3/1000 strokes : 16.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 4.5

Check tolerance

cm3/1000s. : 7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 30,04.97 : ISO 4113

Combination No. : 0 400 876 439

Injection pump

Pump designation : PES6A90D410RS2757 EP type number : 0 410 896 086

Governor

Governer design. : RSV425...1050A5C2266

: -1L

Governer no.

: 0 420 232 638

Cust. part No. : 112069

Customer-spec. information

: IVECO-FIAT Customer : 8065.25.699 Motor

Power KW : 99.0

TEST BENCH REQUIREMENTS

: 1.3 Inlet line

Test oil inlet

temp. °C

Tolerance °C

Overflow valve : 1 419 992 198

1.5 Inlet press. bar :

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 Tolerance bar

: 1 680 750 014 Test lines

Outside diameter : 6.0 x inside diameter : 2.0

x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

2.30 Prestroke mm

: + 0.05Tolerance mm

Check

: + - 0.10tolerance mm

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

: 1-5- 3- 6- 2-Firing order

: 4

: 0-60-120-180-240 Phasing

Tolerance : +- 0.50

Check

: +- 0.75 tolerance 'NW

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.80

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 93.Û

Tolerance

cm3/1000 strokes : + 0.5

Check tolerance

2.5 cm3/1000s. : +-

	J. Talamana
Spreed	+ Tolerance + cm3/1000 strokes : 3.0
spreed	+ Check tolerance
Tolerance	- cm3/1000s. : 7.0
cm3/1000 strokes : 3.0	I (11137 10003.
CIID/ 1000 3CI ORES . 3.0	I
Check tolerance	
cm3/1000s. : 7.0	CONTROL LEVER
	1
	control lever
	position degree : 113.0
Rated speed rpm : 425	tolerance degree : + 4.0
•	+
Rack travel in mm: 6.70	+ RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 10.80
Del. quantity	+ Rated speed rpm : 1095
cm3/1000 strokes : 10.0	† Tolerance 1/min : +- 5
Tolerance	† , , , , , , , , , , , , , , , , , , ,
cm3/1000 strokes : +- 2.0	rack travel mm : 4.00
Check tolerance	Rated speed rpm : 1170
cm3/1000s. : + 4.0	Tolerance 1/min : +- 15
Spreed	rack travel mm : 0.85
cm3/1000 strokes : 4.5	Tolerance mm : + 0.55
Check tolerance	Rated speed rpm : 1365
cm3/1000s. : 7.0	Tarea speed (piii : 1303
· · · · · · · · · · · · · · · · · · ·	rack travel mm : 4.00
	Rated speed rpm : 1215
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	1
•	+
• •	
-	LOW IDLE
GUIDE SLEEVE POSITION	LOW IDLE
GUIDE SLEEVE POSITION	+
.	control lever
control lever	control lever position degree : 88.5
control lever - 3 -	control lever
control lever	control lever position degree : 88.5 tolerance degree : +- 4.0
control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 88.5
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50	control lever position degree : 88.5 tolerance degree : +- 4.0 Setting point w/out bumper spring
control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 88.5 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 425
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20	control lever position degree : 88.5 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 425 rack travel mm : 6.20
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 88.5 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 425
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 88.5 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 425 rack travel mm : 6.20
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 88.5 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 425 rack travel mm : 6.20 Tolerance mm : + 0.10 Testing:
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.75	control lever position degree : 88.5 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 425 rack travel mm : 6.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 425
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 88.5 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 425 rack travel mm : 6.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 425 rack travel mm : 6.70
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 88.5 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 425 rack travel mm : 6.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 425
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050	control lever position degree : 88.5 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 425 rack travel mm : 6.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 425 rack travel mm : 6.70 Tolerance mm : + 0.10
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure	control lever position degree : 88.5 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 425 rack travel mm : 6.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 425 rack travel mm : 6.70 Tolerance mm : + 0.10 rack travel mm : 2.00
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900	control lever position degree : 88.5 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 425 rack travel mm : 6.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 425 rack travel mm : 6.70 Tolerance mm : - 0.10 rack travel mm : 2.00 Rated speed rpm : 677
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity	control lever position degree : 88.5 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 425 rack travel mm : 6.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 425 rack travel mm : 6.70 Tolerance mm : + 0.10 rack travel mm : 2.00
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 93.0	control lever position degree : 88.5 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 425 rack travel mm : 6.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 425 rack travel mm : 6.70 Tolerance mm : - 0.10 rack travel mm : 2.00 Rated speed rpm : 677
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 93.0 Tolerance	control lever position degree : 88.5 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 425 rack travel mm : 6.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 425 rack travel mm : 6.70 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 677 Tolerance 1/min : + 30
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 93.0 Tolerance cm3/1000 strokes : + 0.5	control lever position degree : 88.5 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 425 rack travel mm : 6.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 425 rack travel mm : 6.70 Tolerance mm : - 0.10 rack travel mm : 2.00 Rated speed rpm : 677
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 93.0 Tolerance cm3/1000 strokes : + 0.5 Check tolerance	control lever position degree : 88.5 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 425 rack travel mm : 6.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 425 rack travel mm : 6.70 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 677 Tolerance 1/min : + 30 TORQUE CONTROL
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 93.0 Tolerance cm3/1000 strokes : + 0.5	control lever position degree : 88.5 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 425 rack travel mm : 6.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 425 rack travel mm : 6.70 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 677 Tolerance 1/min : + 30

Tolerance mm	: ← 0.05	
Rated speed rpm rack travel mm Tolerance mm	: 500 : 12.50 : + 0.10	
Rated speed rpm rack travel mm Tolerance mm	: 700 : 12.40 : ← 0.10	
ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 900 : 12.50 : + 0.10	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm		
MEASUREMENT		
Rated speed rpm	: 500	
Pressure hPa rack travel mm Tolerance mm	: 475 : 11.60 : + 0.10	
Pressure hPa rack travel mm Tolerance mm	: 600 : 12.20 : +- 0.05	
Start interlock		
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure hPa Rated speed rpm	: - : 500	
Del. quantity cm3/1000 strokes		
Tolerance cm3/1000 strokes	: +- 0.5	
Check tolerance cm3/1000s.	: +- 2.5	

rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 20.50 : + 1.00 : 90.0 : + 7.5 : + 10.0
LOW IDLE	
Rated speed rpm Del. quantity	: 425
cm3/1000 strokes	: 10.0
Tolerance cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s. Spreed	: +- 4.0
Tolerance cm3/1000 strokes Check tolerance	: 4.5
cm3/1000S.	: 7.0

End of test specification sheet

Rated speed rpm : 100

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 04.03.97 : U4.U3.77 : ISO 4113

Combination No. : 9 400 030 696

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number

: 9 410 037 215

Governor

Governer design. : RSV475...1250A0C826R

Governer no. : 9 420 034 700

Cust. part No. : 3928662

Customer-spec. information

Customer : CUMMINS

Motor

: 6BT - 165 HP

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

: +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0

Tolerance bar : + 1.0

2.85 Prestroke mm : +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : \leftarrow 1.50

Firing order

: 1-5- 3- 6- 2-

: 4

Phasina

: 0-60-120-180-240

Tolerance

: +- 0.50

Check

tolerance °NW

: **←** 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00

Tolerance

: + 0.10

Check

tolerance $^{\circ}NW$: \leftarrow 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 12.60

Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 106.0	+ Tolerance + cm3/1000 strokes : + 1.0 + Check tolerance
Tolerance cm3/1000 strokes : +- 1.0	cm3/1000s. : +- 3.0 + Spreed
Check tolerance cm3/1000s. : + 3.0	+ Tolerance cm3/1000 strokes : 4.0 Check tolerance
Spreed	+ cm3/1000s. : 6.5
	+
Tolerance cm3/1000 strokes : 4.0	CONTROL LEVER
Check tolerance cm3/1000s. : 6.5	control lever position degree : 111.0 tolerance degree : + 4.0
Rated speed rpm : 475	RATED SPEED - rack travel mm : 11.60 - Rated speed rpm : 1315
Rack travel in mm : 5.50	+ Tolerance 1/min : + 5
Tolerance mm : +- 0.10	1
Del. quantity	rack travel mm : 4.00
cm3/1000 strokes : 20.5	+ Rated speed rpm : 1415
Tolerance	+ Tolerance 1/min : +- 5
cm3/1000 strokes : +- 2.0	1
Check tolerance	rack travel mm : 0.85
cm3/1000s. : +- 4.5	+ Tolerance mm : +- 0.55
Spreed	Rated speed rpm : 1500
Tolerance	1 Nated Speed 1 pill . 1300
cm3/1000 strokes : 6.0	rack travel mm : 4.00
Check tolerance	Rated speed rpm : 1420
	Tolerance 1/min : +- 0.05
cm3/1000s. : 8.0	Toterance it in the color
	†
(D) OFTENO OF THEFTEN DUMP	†
(B) SETTING OF INJECTION PUMP	†
WITH GOVERNOR	LOUETONE
	+ LOW IDLE
	†
	<u> </u>
GUIDE SLEEVE POSITION	+ control lever
	+ position degree : 85.0
Rated speed rpm : 800	tolerance degree : + 4.0
	† • • • • • • • • • • • • • • • • • • •
Rack travel in mm : 0.50	+ Setting point w/out bumper spring
Tolerance mm : \leftarrow 0.20	† <u> </u>
	+ Rated speed rpm : 475
governor spring	† rack travel mm : 5.00
pre-tension	+ Tolerance mm : +- 0.10
click setting $x : 4.50$	+
	+ Testing:
FULL LOAD DELIVERY AT FULL LOAD	
	+ rack travel mm : 5.50
Rated speed rpm : 1250	+ Tolerance mm : + 0.10
Aneroid pressure	<u> </u>
hPa : 800	rack travel mm : 2.00
Del. quantity	Rated speed rpm : 575
cm3/1000 strokes : 106.0	Tolerance 1/min : + 30
CIRD/ 1000 Strokes . 100.0	T total diffe 1/11/11 50

Rated speed rpm : 100 : > 19.50 CRT mm min. TORQUE CONTROL Rated speed rpm 1250 rack travel mm 12.60 Tolerance mm : +- 0.05 Rated speed rpm : 750 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm 500 800 Pressure hPa Pressure hPa Rated speed rpm 500 : 11.00 rack travel mm Tolerance mm : + 0.20**MEASUREMENT** Rated speed rpm : 500 655 Pressure hPa 12.30 rack travel mm : +- 0.20Tolerance mm 500 Pressure hPa rack travel mm 11.70 Tolerance mm : +- 0.20 Start interlock FUEL DELIVERY CHARACTERISTICS Aneroid pressure 800 hPa Rated speed rpm 750 Del. quantity cm3/1000 strokes : 113.8 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. : +-4.0 Aneroid pressure hPa

500

Del. quantity cm3/1000 strokes : 88.8 Tolerance cm3/1000 strokes : +- 1.0Check tolerance cm3/1000s. 3.0 STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 20.25 : : + 0.75Tolerance mm Del. quantity cm3/1000 strokes : 121.5 Tolerance cm3/1000 strokes : +- 10.0Check tolerance cm3/1000s.: +- 15.0 LOW IDLE Rated speed rpm : 475 Del. quantity cm3/1000 strokes : 20.5 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 : +-Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 8.0

End of test specification sheet

Rated speed rpm :

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.04.97 Test oil : ISO 4113

Combination No. : F 002 A0Z 034

Injection pump

Pump designation : PES6A95D320/3RS2881 EP type number : 9 410 037 215

zi type namet i y tro ooi

Governor

Governer design. : RSV475...1100ACC912R

Governer no. : F 002 A20 224

Cust. part No. : DEP: 3283575

Customer—spec. information
Customer : CUMMINS
Motor : 68T - 135 HP

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

Start of delivery blocking

*NW after s.o.d. : 7.00 Tolerance : \leftarrow 0.10

Check

tolerance °NW : + 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.85 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 95.2

Tolerance cm3/1000 strokes : +- %.0	+ Check tolerance + cm3/1000S. : +- 3.0 + Spreed
Check tolerance cm3/1000s. : + 3.0	Tolerance cm3/1000 strokes : 3.5
Spreed	+ Check tolerance + cm3/1000S. : 6.0
Talanamaa	†
Tolerance cm3/1000 strokes : 3.5	CONTROL LEVER
Check tolerance cm3/1000s. : 6.0	control lever
	+ position degree : 105.0 + tolerance degree : + 4.0
Rated speed rpm : 475	RATED SPEED : 10.85
Rack travel in mm : 5.40	+ Rated speed rpm : 1150
Tolerance mm : + 0.10 Del. quantity	Tolerance 1/min : + 5
cm3/1000 strokes : 14.0 Tolerance	rack travel mm : 4.00 Rated speed rpm : 1240
cm3/1000 strokes : +- 2.0 Check tolerance	Tolerance 1/min : + 5
cm3/1000s. : +- 4.5 Spreed	+ rack travel mm : 0.85 + Tolerance mm : +- 0.55
Tolerance	Rated speed rpm : 1370
cm3/1000 strokes : 3.5	†
Check tolerance cm3/1000s. : 5.5	+ rack travel mm : 4.00 + Rated speed rpm : 1240
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	control lever
Rated speed rpm : 800	position degree : 83.0 tolerance degree : +- 4.0
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Setting point w/out bumper spring
	Rated speed rpm : 475
governor spring	rack travel mm : 4.90
pre-tension	† Tolerance mm : +- 0.10
click setting x : 3.25	Testing:
FULL LOAD DELIVERY AT FULL LOAD STOR	P Rated speed rpm : 475 + rack travel mm : 5.40
Rated speed rpm : 1100 Aneroid pressure	Tolerance mm : + 0.10
hPa : 1200	T rack travel mm : 2.00
Del. quantity	+ Rated speed rpm : 550
cm3/1000 strokes : 95.2	Tolerance 1/min : +- 30
Tolerance cm3/1000 strokes : +- 1.0	Rated speed rpm : 100
	~

CRT mm min.	: > 19.00	† †	Del. quantity cm3/1000 strokes Tolerance
TORQUE CONTROL		 †	cm3/1000 strokes Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 11.85 : + 0.05	† † † †	cm3/1000s.
Rated speed rpm rack travel mm Tolerance mm	: 12.60	† + + + +	Rated speed rpm rack travel mm Tolerance mm
ANEROID/ALTITUDE COMPENSATOR TEST		† † †	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance
SETTING		++	cm3/1000s.
Rated speed rpm Pressure hPa		+	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 10.20 : + 0.20	† + + + +	LOW IDLE Rated speed rpm Del. quantity
MEASUREMENT		Ī	cm3/1000 strokes Tolerance cm3/1000 strokes
Rated speed rpm	: 500	+	Check tolerance cm3/1000s.
Pressure hPa rack travel mm Tolerance mm	: 580 : 12.30 : + 0.20		Spreed Tolerance cm3/1000 strokes
Pressure hPa rack travel mm Tolerance mm	: 475 : 11.80 : + 0.20	† + +	Check tolerance cm3/1000s.
Start interlock		Ī	
			End of test specif
FUEL DELIVERY CHA	RACTERISTICS	Ì	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance		+++++++++++++++++++++++++++++++++++++++	
cm3/1000 strokes Check tolerance cm3/1000s.	: + 2.0 : + 4.0	‡	
Aneroid pressure hPa Rated speed rpm	: - : 500	+++++++++++++++++++++++++++++++++++++++	

: 76.3 : +- 1.0 : +- 3.0 IVERY : 100 : 20.25 : + 0.75 : 120.5 : +- 10.0 : +- 15.0 : 475 14.0 : +- 2.0 : +- 4.5 3.5 5.5

fication sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 25.04.97 Test oil : ISO 4113

Combination No. : F 002 AOZ 051

Injection pump

Pump designation : PES4A95D320/3RS2920 EP type number : F 002 A10 012

Governor

Governer design. : RSV475...1050A0C931R

Governer no. : F 002 A20 237

Cust. part No. : 3283921

Customer—spec. information Customer : CUMMINS

Motor : CUMMINS-4BTA-3.9

Power KW : 79.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0

Prestroke mm : 2.45
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 9.00 Tolerance : + 0.10

Check

tolerance *NW : +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.30 Tolerance mm : + 0.05

Doll grantsta

Del. quantity cm3/1000 strokes : 115.0

Tolerance	
cm3/1000 strokes : +- 1.0	Tolerance - cm3/1000 strokes : + 1.0
Check tolerance cm3/1000s. : + 3.0	Check tolerance : +- 3.0
Spreed	
Tolerance	+ cm3/1000 strokes : 4.0 + Check tolerance
cm3/1000 strokes : 4.0	cm3/1000s. : 6.5
Check tolerance cm3/1000s. : 6.5	
	CONTROL LEVER
D. A. J	control lever
Rated speed rpm : 475	<pre>position degree : 99.0 tolerance degree : +- 4.0</pre>
Rack travel in mm : 6.25	+
Tolerance mm : + 0.10	+ RATED SPEED
Del. quantity cm3/1000 strokes : 22.0	+ rack travel mm : 12.30 + Rated speed rpm : 1110
Tolerance	+ Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0	†
Check tolerance cm3/1000s. : +- 4.5	+ rack travel mm : 4.00 + Rated speed rpm : 1195
Spreed	+ Tolerance 1/min : +- 5
Tolerance	†
cm3/1000 strokes : 6.0 Check tolerance	+ rack travel mm : 0.85 + Tolerance mm : +- 0.55
cm3/1000s. : 8.0	+ Rated speed rpm : 1500
	+
(B) SETTING OF INJECTION PUMP	+ rack travel mm : 4.00 + Rated speed rpm : 1195
WITH GOVERNOR	+ Rated speed (pill : 1193
	†
GUIDE SLEEVE POSITION	LOW IDLE
	Į
control lever	control lever
position degree : FREE	position degree : 79.0
Rated speed rpm : 800	tolerance degree : + 4.0
Rack travel in mm : 0.50	Control lever difference
Tolerance mm : + 0.20	+ Grad : 20.0 + tolerance degree : + 4.0
governor spring	toterance degree . +- 4.0
pre-tension	+ Setting point w/out bumper spring
click setting x : 2.50	+ Rated speed rpm : 475
	rack travel mm : 5.75
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
Rated speed rpm : 1050 Aneroid pressure	Testing:
hPa : 900	Rated speed rpm : 475
	+ rack travel mm : 6.25

Tolerance mm	: +- 0.10	+ Tolerance + cm3/1000 strokes	• +- 20
rack travel mm	2.00	+ Check tolerance	2.0
Rated speed rpm		+ cm3/1000s.	: +- 4.0
Tolerance 1/min		+	11.0
Rated speed rpm	: 100	+ Aneroid pressure + hPa	: -
		+ Rated speed rpm	: 500
CRT mm min.	: > 19.00	+ Del. quantity + cm3/1000 strokes	: 71.8
		† Tolerance	
TORQUE CONTROL		cm3/1000 strokes Check tolerance	: + 1.0
Rated speed rpm	: 1050	+ cm3/1000s.	: ← 3.0
rack travel mm		+	
Tolerance mm		. †	
Rated speed rpm	: 750	+ STARTING FUEL DEL	IVERY
rack travel mm	: 14.40	+	
Tolerance mm	: +- 0.20	+ Rated speed rpm	
		+ rack travel mm	
		Tolerance mm	: ← 0.50
ANEROID/ALTITUDE		+ Del. quantity	
COMPENSATOR TEST		+ cm3/1000 strokes	: 121.4
		+ Tolerance	40.0
		+ cm3/1000 strokes	: +- 10.0
SETTING		+ Check tolerance	45.0
Dahad award	. 500	+ cm3/1000s.	: ← 15.0
Rated speed rpm Pressure hPa	: 500 : 900	Ť	
Fressure nra	: 900	Ĩ	
Pressure hPa	• -		
Rated speed rpm	: 500	∔ LOW IDLE	
rack travel mm		1	
Tolerance mm		+ Rated speed rpm	: 475
		+ Del. quantity	,,,,
MEASUREMENT		+ cm3/1000 strokes	: 22.0
		+ Tolerance	
Rated speed rpm	: 500	cm3/1000 strokes	: +- 2.0
		+ Check tolerance	
Pressure hPa	: 600	cm3/1000s.	: +- 4.5
rack travel mm	: 13.30	+ Spreed	
Tolerance mm	: ← 0.20	+ Tolerance	
		+ cm3/1000 strokes	: 6.0
Pressure hPa	: 400	+ Check tolerance	
rack travel mm	: 12,00	+ cm3/1000s.	: 8.0
Tolerance mm	: + 0.20	İ	
Start interlock		-	
		I	
		+ End of test speci	fication sheet
FUEL DELIVERY CHA	ARACTERISTICS	†	
Ananoid processo		<u>†</u>	
Aneroid pressure hPa	: 900	Ī	
nra Rated speed rpm		I	
Del. quantity	. , , , ,	I	
cm3/1000 strokes	: 129.2	I	
CHO/ TOOU SCHOKES	• (67.6	I	
		7	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 23.04.97 Edition Test oil : ISO 4113

Combination No. : 0 402 066 707

Injection pump

Pump designation : PES6P120A120RS3358

EP type number : 0 412 026 784

Governor

Governer design. : RSV475...1100P2A618

Governer no. : 0 421 833 513

Cust. part No. : 3927356

Customer-spec. information

Customer : CDC

: 6BTA ELITE Motor

Power KW : 136.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 bar Tolerance bar

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85 Tolerance mm : + 0.03

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: + 0.30 Phasing : 0-60-120-180-240

Tolerance

Check

tolerance *NW : +- 0.50

Start of delivery blocking

*NW after s.o.d. : 6.75 : **←** 0.50

Tolerance

Check

: + 0.75tolerance 'NW

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 11.35

Tolerance mm : \leftarrow 0.05

Del. quantity + cm3/1000 strokes : 146.5 +	Aneroid pressure hPa : 1200 Del. quantity
Tolerance cm3/1000 strokes : + 1.0	cm3/1000 strokes : 146.5 Tolerance
Check tolerance cm3/1000s. : + 3.0	<pre>cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0</pre>
Spreed	Spreed Tolerance cm3/1000 strokes : 4.0
Tolerance cm3/1000 strokes : 4.0	Check tolerance cm3/1000s. : 7.5
Check tolerance cm3/1000s. : 7.5	CONTROL LEVER
	CONTROL ELVER
Rated speed rpm : 475	control lever position degree : 103.0 tolerance degree : + 4.0
Rack travel in mm: 5.40 + Tolerance mm: + 0.10 +	DATES CORES
Tolerance mm : + 0.10 + Del. quantity +	RATED SPEED rack travel mm : 10.30
cm3/1000 strokes : 24.5	Rated speed rpm : 1175
Tolerance +	Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0 + Check tolerance	rack travel mm : 6.50
cm3/1000s. : + 4.5 Spraed	Rated speed rpm : 1230 Tolerance 1/min : - 5
Tolerance +	
cm3/1000 strokes : 6.0 + Check tolerance	rack travel mm : 0.85
cm3/1000s. : 9.0	Tolerance mm : +- 0.55 Rated speed rpm : 1375
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
‡	LOW IDLE
GUIDE SLEEVE POSITION	control lever
‡	position degree : 81.0 tolerance degree : +- 4.0
control lever + position degree : -3 +	Control lever difference
Rated speed rpm : 800	Grad : 19.0
+	tolerance degree : +- 6.0
Rack travel in mm: 0.50 + Tolerance mm: + 0.20 +	Setting point w/out bumper spring
governor spring	Rated speed rpm : 475
pre-tension +	rack travel mm : 4.90
click setting x : 3.75	Tolerance mm : +- 0.05
FULL LOAD DELIVERY AT FULL LOAD STOP	Testing:
Parted around man 1 1100	Rated speed rpm : 475
Rated speed rpm : 1100 +	rack travel mm : 5.40 Tolerance mm : + 0.10
'	

rack travel mm 2.00 : Rated speed rpm : 590 ; +-Tolerance 1/min 30

Rated speed rpm 100

CRT mm min. : > 19.00

TORQUE CONTROL

1100 Rated speed rpm rack travel mm 11.35 Tolerance mm : +- 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm 500 Pressure hPa 1200

Pressure hPa Rated speed rpm 500 9.10 rack travel mm Tolerance ma: : +- 0.20

MEASUREMENT

Rated speed rpm 500

800 Pressure hPa 10.90 rack travel mm Tolerance mm : +- 0.20

Pressure hPa 545 9.75 rack travel mm Tolerance mm : + - 0.20

Start interlock

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

500 Rated speed rpm Del. quantity

cm3/1000 strokes : 96.5

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance cm3/1000s.

: +-3.0 STARTING FUEL DELIVERY

Rated speed rpm : 20.50 rack travel mm Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 165.0

Tolerance

cm3/1000 strokes : +- 20.0

Check tolerance

cm3/1000s. : +- 25.0

LOW IDLE

Rated speed rpm : 475 Del. quantity

cm3/1000 strokes : 24.5

Tolerance

cm3/1000 strokes : +-2.0 Check tolerance

cm3/1000s. 4.5 : +-Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

9.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 23.04.97

Test oil

: ISO 4113

Combination No. : 0 402 066 709

Injection pump

Pump designation : PES6P120A120RS3358

EP type number : 0 412 026 784

Governor

Governer design. : RSV475...1100P0A632

Governer no. : 0 421 833 539

Cust. part No. : 3929602

Customer-spec. information Customer : CDC

Motor

: 6BTA ELITE

: 130.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40

Tolerance *C

: + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240 Tolerance : +- 0.30

Check

tolerance *NW

: +- 0.50

Start of delivery blocking

*NW after s.o.d. : 6.75

Tolerance : \leftarrow 0.50

Check

tolerance 'NW

: +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.20

Tolerance mm : + 0.05

Del. quantity	Aneroid pressure hPa : 1500
cm3/1000 strokes : 138.5	Del. quantity cm3/1000 strokes : 138.5
Tolerance + cm3/1000 strokes : + 1.0	Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s. : + 3.0	Check tolerance cm3/1000s. : +- 3.0 Spreed
Spreed	Tolerance cm3/1000 strokes : 4.0
Tolerance cm3/1000 strokes : 4.0	Check tolerance cm3/1000s. : 7.5
Check tolerance	
cm3/1000s. : 7.5	CONTROL LEVER
‡	control lever position degree : 93.0
Rated speed rpm : 475	tolerance degree : +- 4.0
Rack travel in mm: 5.40 + Tolerance mm: + 0.20 + Del. quantity cm3/1000 strokes: 24.5 + Tolerance mm: 5.40 + 0.20	RATED SPEED rack travel mm : 10.20 Rated speed rpm : 1145 Tolerance 1/min : +- 5
Tolerance + cm3/1000 strokes : +- 2.0 +	rack travel mm : 5.70
Check tolerance cm3/1000s. : + 4.5 + 5	Rated speed rpm : 1230 Tolerance 1/min : + 5
Tolerance + 6.0 + Check tolerance +	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1400
cm3/1000s. : 9.0	. Troo
(B) SETTING OF INJECTION PUMP +	LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 78.0 tolerance degree : +- 4.0
control lever position degree : -3 Rated speed rpm : 800	Control lever difference Grad : 15.0 tolerance degree : +- 4.0
Rack travel in mm: 0.50	Setting point w/out bumper spring
Tolerance mm : + 0.20	· · · ·
governor spring pre-tension	Rated speed rpm : 475 rack travel mm : 4.90 Tolerance mm : +- 0.10
click setting x : 4.25	Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 475 rack travel mm : 5.40
Rated speed rpm : 1100	Tolerance mm : 5.40

rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 630 : + 30
Rated speed rpm	: 100
CRT mm min.	: < 19.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 11.20 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 12.00 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 1500
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 9.10 : + 0.20
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 975 : 11.50 : +- 0. 20
Pressure hPa rack travel mm Tolerance mm	: 545 : 9.85 : +- 0.20
Start interlock	
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
hPa Rated speed rpm	: 1500 : 750
Del. quantity cm3/1000 strokes	
Tolerance	

:	+-	6.0
:		8.0
:		12.0
:		500
:		96.5
:	+	2.0
:	+-	4.0
	· 	
		: +-

STARTING FUEL DELIVERY

Rated speed rpm rack travel mm	:		100 21.00
Tolerance mm	:	+-	0.50
Del. quantity			
cm3/1000 strokes	:		165.0
Tolerance			
cm3/1000 strokes	:	+-	20.0
Check tolerance			
cm3/1000s.	:	+-	25.0

LOW IDLE

Rated speed rpm	:	475
Del. quantity		
cm3/1000 strokes	:	24.5
Tolerance		
cm3/1000 strokes	: +-	2.0
Check tolerance		
cm3/1000s.	: +-	4.5
Spreed		
Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance		
cm3/1000s.	:	9.0

End of test specification sheet

cm3/1000 strokes : +- 3.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 01.04.97 : ISO 4113

Combination No. : 0 402 066 713

Injection pump

Pump designation : PES6P110A120RS3357

EP type number : 0 412 016 754

Governor

Governer design. : RSV550...1100P2A677

Governer no. : 0 421 833 596

Cust. part No. : 3931957

Customer-spec. information

Customer

: CDC

Motor

: 6CTA ELITE

Power KW

: 208.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve : 2 417 413 093

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

bar

208.5

Tolerance bar

Test lines

: 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 : 600 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar :

Tolerance bar : +- 1.0

Prestroke mm 3.60

Tolerance mm : +- 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

Tolerance : +- 0.30

Check

tolerance *NW : + 0.50

Start of delivery blocking

*NW after s.o.d. : 8.50

Tolerance : + 0.50

Check

: + 0.75 tolerance *NW

Barrel no. : 1

BASIC SETTING

1100 Rated speed rpm

Rack travel in mm: 13.00

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 195.5	Aneroid pressure hPa : 1800 Del. quantity
Tolerance cm3/1000 strokes : + 1.0	cm3/1000 strokes : 195.5 Tolerance
Check tolerance cm3/1000s. : + 3.0	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0
Spreed	Spreed Tolerance cm3/1000 strokes : 4.0
Tolerance cm3/1000 strokes : 4.0	Check tolerance cm3/1000s. : 7.5
Check tolerance cm3/1000s. : 7.5	CONTROL LEVER
Rated speed rpm : 550	control lever position degree : 97.0
Rack travel in mm: 6.40 +	tolerance degree : +- 4.0
Tolerance mm : + 0.20 + Del. quantity +	RATED SPEED rack travel mm : 12.00
cm3/1000 strokes : 29.5	Rated speed rpm : 1170
Tolerance + cm3/1000 strokes : + 2.0 +	Tolerance 1/min : +- 5
Check tolerance +- 4.5 +- 4.5	rack travel mm : 6.40 Rated speed rpm : 1230
Spreed	Tolerance 1/min : +- 5
Tolerance + cm3/1000 strokes : 6.0 +	rack travel mm : 0.85
Check tolerance + cm3/1000S. : 9.0	Tolerance mm : +- 0.55 Rated speed rpm : 1375
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 6.40 Rated speed rpm : 1235
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : -3 Rated speed rpm : 800	control lever position degree : 77.0 tolerance degree : + 4.0
Rack travel in mm: 0.50 Tolerance mm: :+- 0.20	Control lever difference Grad : 22.0 tolerance degree : +- 6.0
governor spring + pre-tension +	Setting point w/out bumper spring
click setting x : 3.50	Rated speed rpm : 550
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 5.90 Tolerance mm : +- 0.10
Rated speed rpm : 1100	Testing:

Rated speed rpm		+ Del. quantity
rack travel mm Tolerance mm	: 6.40	+ cm3/1000 strokes : 212.0
Tolerance mm	: ← 0.20	+ Tolerance
		+ cm3/1000 strokes : +- 2.0
Rated speed rpm	: 100	+ Check tolerance
		+ cm3/1000s. : +- 5.0
CRT mm min.	: < 19.00	+
		+ Aneroid pressure
TORQUE CONTROL		+ Rated speed rpm : 600
		+ Del. quantity
Rated speed rpm	: 1100	+ cm3/1000 strokes : 154.5
rack travel mm	: 13.00	+ Tolerance
Tolerance mm	: ← 0.05	+ cm3/1000 strokes : +- 1.0
		+ Check tolerance
Rated speed rpm	: 750	+ cm3/1000s. : +- 3.0
Rated speed rpm rack travel mm Tolerance mm	: 13.50	†
iolerance mm	: 0.20	†
Rated speed rpm		+ STARTING FUEL DELIVERY
rack travel mm	: 13.50	†
Tolerance mm	: +- 0.20	+ Rated speed rpm : 100
		+ rack travel mm : 21.00
	——————————————————————————————————————	+ Tolerance mm : → 0.50
ANEROID/ALTITUDE		+ Del. quantity
COMPENSATOR TEST		+ cm3/1000 strokes : 165.0
		+ Tolerance
		+ cm3/1000 strokes : +- 20.0
SETTING		+ Check tolerance
		$+$ cm3/1000s. : \leftarrow 25.0
Rated speed rpm	: 600	+
Pressure hPa	: 1800	+
		+
Pressure hPa Rated speed rpm	: -	
Rated speed rpm	: 660	+ LOW IDLE
rack travel mm	: 11.50	+
Tolerance mm	: +- 0.20	+ Rated speed rpm : 550
		+ Del. quantity
MEASUREMENT		+ cm3/1000 strokes : 29.5
		† Tolerance
Pated speed rpm	: 600	+ cm3/1000 strokes : +- 2.0
		† Check tolerance
Pressure hPa	: 1265	+ cm3/1000s. : +- 4.5
rack travel mm	: 13.10	Spreed
Tolerance mm	: +- 0.20	+ Tolerance
		+ cm3/1000 strokes : 6.0
Pressure hPa	: 875	+ Check tolerance
rack travel mm	: 12.15	+ cm3/1000s. : 9.0
Tolerance mm	: + 0.20	+
		+
Start interlock		+
		+
		+
		End of test specification sheet
FUEL DELIVERY CHA	ARACTERISTICS	†
		· ·

Aneroid pressure hPa

Rated speed rpm

1800 950

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 26.02.96

Test oil

: ISO 4113

Combination No. : 0 402 196 707

Injection pump

Pump designation : PES6P120A720RS3354

EP type number : 0 412 026 781

Governor

Governer design. : RE30

Governer no. : 0 421 890 029

Cust. part No. : RE 62645

Customer-spec. information Customer : DEERE

Motor

: 6081HF007

Power KW

: 203.0

TEST BENCH REQUIREMENTS

Inlet line

: 4.2

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 2 417 413 077

Inlet press. bar :

2.0

Tolerance bar : +- 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

Test lines : 1 680 750 015

Outside diameter :

6.0

x inside diameter : 3.0 x length mm :

600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar: 17.0

Firing order : 1-5-3-6-2-

: 4

Phasing

: 0-60-120-180-240

Start of delivery mark

*NW after s.o.d. : 9.00

Tolerance

: +- 0.50

Check

tolerance "NW

: +- 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel

15.00

Tolerance mm

: +- 0.50

Difference ° CS : 2.50

(B) POSITIONER TESTING

Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR

POSITION

Engine speed min-1: 0	+ Amplitude V : 1.4 + Tolerance V : +/- 0.6
	<pre>→ Tolerance V : +/- 0.6</pre>
Setting point	+ Check
(P, R and H pump)	† tolerance V : +/- 1.20
•	4
Uact V : 3.100	+ Engine speed min-1: 600
CRT mm : 13.00	Difference
Tolerance mm : +/- 0.05	+ Amplitude to
Check	+ Amplitude V : max.1.4
tolerance mm : +/- 0.10	1 max. 1. 4
TO COT WITH THE PARTY OF TO	1
Check value	
(P, R and H pump)	(C) INJECTION PUMP WITH POSITIONER
	T CON TRACECTION FOR WITH FOSTITONER
	TEST POINT V1
Uact V : 1.700	1201 101111 11
CRT mm : 6.15	Rated speed rpm : 1100
Tolerance mm : +/- 0.25	+ Uact V : 2.880
Check	
	+ Del. quantity
tolerance mm : +/- 0.30	+ cm3/1000 strokes : 140.0
	+ Tolerance
Out the second set	+ cm3/1000 strokes : + 1.0
Setting point	+ Check tolerance
(cmpq M)	+ cm3/1000s. : +- 3.0
	+ Spreed
Uact V : 3.100	+ Tolerance
CRT mm : 12.50	+ cm3/1000 strokes : 5.0
Tolerance mm : +/- 0.05	† Check tolerance
Sheck	+ cm3/1000s. : 9.0
tolerance mm : +/- 0.10	+
	+ FUEL DELIVERY CHARACTERISTICS
Check value	+
(M pump)	+ Rated speed rpm : 700
	+ Uact V : 2.880
Uact V : 1.700	+ Del. quantity
CRT mm : 5.50	+ cm3/1000 strokes : 141.5
Tolerance mm : +/- 0.25	+ Tolerance
Check	+ cm3/1000 strokes : +- 3.0
tolerance mm : +/- 0.30	- Check tolerance
	+ cm3/1000s. : +- 6.0
Stop position	Spreed
	Tolerance
Uact V : Value with	- cm3/1000 strokes : 8.0
deenergised adjusting magnet	- Check tolerance
and control rod in	- cm3/1000s. : 12.0
stop position.	1 0,000
CRT mm : 0.75	Rated speed rpm : 425
Tolerance mm : +/- 0.25	+ Uact V : 1.610
Check	Del. quantity
tolerance mm : +/- 0.35	cm3/1000 strokes : 22.0
toterance iiiii	Tolerance
	+ cm3/1000 strokes : + 3.0
ENCINE COEEN SENSOD	+ Check tolerance
ENGINE-SPEED SENSOR	
(Ali P and R pumps not	+ cm3/1000s. : +- 6.0
H and M pumps)	Spreed
· · · · · · · · · · · · · · · · · · ·	+ Tolerance
Test with control rod	+ cm3/1000 strokes : 6.0
in stop position	+ Check tolerance
	+ cm3/1000S. : 10.0
Engine speed min-1: 60	+

TEST POINT L1

425 Rated speed rpm 1.610 Uact V Tolerance Volt : **←** 0.060

Check tolerance

: + 0.060Volt

STARTING FUEL DELIVERY

Rated speed rpm 100 Uact V 4.600

Del. quantity cm3/1000 strokes : 105.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : +- 13.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 30.04.97 : ISO 4113

Combination No. : 0 402 736 910

Injection pump

Pump designation : PES6P120A120RS7432

EP type number : 0 412 726 967

Governor

Governer design. : RQV450...1100PA1317K

Governer no. : 0 421 815 545

Cust. part No. : 3931948

Customer-spec. information Customer : CDC

Motor

Power KW

: GCTA-A

: 224.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 4
Tolerance °C : +-

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

x inside diameter: 3.0 x length mm : 600

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 4.40 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240 Tolerance : +- 0.30

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00

Tolerance

: +- 0.50

Check

tolerance "NW

: +- 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.95

Tolerance mm : +- 0.05

Del. quantity + cm3/1000 strokes : 236.5 +	Tolerance mm : +- 0.50
Tolerance cm3/1000 strokes : + 1.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000s. : + 4.0	Rated speed rpm : 1100 Aneroid pressure hPa : 1600
Spreed	Del. quantity cm3/1000 strokes : 236.5 Tolerance
Tolerance cm3/1000 strokes : 5.0	cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance cm3/1000s. 9.0	cm3/1000s. : +- 4.0 Spreed Tolerance
	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
Rated speed rpm : 450	
Rack travel in mm: 6.75 Tolerance mm: + 0.20 Del. quantity	CONTROL LEVER
<pre>cm3/1000 strokes : 32.0 Tolerance cm3/1000 strokes : + 3.0</pre>	<pre>control lever position degree : 113.0 tolerance degree : +- 4.0</pre>
Check tolerance + 5.0 + 5.0	RATED SPEED
Spreed + Tolerance + cm3/1000 strokes : 8.0 +	rack travel mm : 13.90 Rated speed rpm : 1170 Tolerance 1/min : +- 15
Check tolerance cm3/1000s. : 12.0	rack travel mm : 3.00
+	Rated speed rpm : 1250 Tolerance 1/min : +- 5
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1350
GUIDE SLEEVE TRAVEL	Rated speed rpm : 1350
Rated speed rpm : 1163 guide sleeve	
travel mm : 7.50 + Tolerance mm : + 0.15	LOW IDLE
Rated speed rpm : 450 + guide sleeve + travel mm : 1.33 +	control lever position degree : 74.0
travel mm : 1.33 + Tolerance mm : + 0.20 +	tolerance degree : +- 4.0
Rated speed rpm : 860 guide sleeve	Control lever difference Grad : 39.0 tolerance degree : +- 6.0
travel mm : 4.55 Tolerance mm : + 0.25	Testing:
Rated speed rpm : 1560 full guide sleeve	Rated speed rpm : 450 rack travel mm : 6.75
travel mm : 13.50	Tolerance mm : +- 0.20

	776	†
Rated speed rpm		FUEL DELIVERY CHARACTERISTICS
CRT mm min.	: > 7.90	+ Aneroid pressure
Rated speed rpm	: 525	hPa : 1600 Rated speed rpm : 750
TORQUE CONTROL		Del. quantity cm3/1000 strokes : 224.5 Tolerance
Rated speed rpm rack travel mm	: 14.95	cm3/1000 strokes : + 3.0 Check tolerance
Tolerance mm Rated speed rpm		+ cm3/1000s. : +- 6.0 + Spreed
rack travel mm Tolerance mm	: 13.95	+ Tolerance + cm3/1000 strokes : 8.0 + Check tolerance
Rated speed rpm	: 500	cm3/1000s. : 12.0
rack travel mm Tolerance mm	: 13.60 : +- 0.20	+ Aneroid pressure + hPa : -
		Rated speed rpm : 1000 Cel. quantity
ANEROID/ALTITUDE COMPENSATOR TEST		+ cm3/1000 strokes : 183.5 + Tolerance + cm3/1000 strokes : +- 1.0
SETTING		Check tolerance cm3/1000s. : + 3.0
Rated speed rpm	• 1100	1
Pressure hPa		OTADTING SUST ASSTREET
Pressure hPa	: -	+ STARTING FUEL DELIVERY
Rated speed rpm	: 1000 : 13.25	Rated speed rpm : 100 rack travel mm : 21.00
rack travel mm Tolerance mm	: + 0.20	rack travel mm : 21.00 Tolerance mm : + 0.50 Del. quantity
MEASUREMENT		cm3/1000 strokes : 156.0 Tolerance
Rated speed rpm	: 1100	cm3/1000 strokes : +- 20.0 + Check tolerance
Pressure hPa rack travel mm Tolerance mm	: 1190 : 14.15 : + 0.20	+ cm3/1000s. : + 25.0
Pressure hPa	: 1050	‡
rack travel mm Tolerance mm	: 13.60 : +- 0.20	+ LOW IDLE
Start interlock		+ Rated speed rpm : 450 + Del. quantity
Rated speed rpm Rated speed rpm		+ cm3/1000 strokes : 32.0 + Tolerance + cm3/1000 strokes : +- 3.0
Check		Check tolerance cm3/1000s. : + 5.0
speed 1/min Check	: > 80	Spreed Tolerance
speed 1/min	: < 400	cm3/1000 strokes : 8.0 Check tolerance
		- cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Test oil : 08.04.97

Combination No. : 0 402 736 914

Injection pump

Pump designation : PES6P120A120RS7370

EP type number : 0 412 726 934

Governor

Governer design. : RQV400...1250PA1315K

Governer no. : 0 421 815 542

Cust. part No. : 3932179

Customer-spec. information Customer : CDC Motor : SBTA-A Power KW : 134.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 bar Tolerance bar : **←** 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.50 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240 Tolerance : +- 0.30

Check

tolerance $^{\circ}NW$: + 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00 Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.75

Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 166.5	Tolerance mm : +- 0.50
Tolerance cm3/1000 strokes : + 1.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Charle dal manage	Rated speed rpm : 1250
Check tolerance cm3/1000S. : +- 4.0	+ Aneroid pressure + hPa : 1200
(115) (1000)	Del. quantity
Spreed	+ cm3/1000 strokes : 166.5
	Tolerance
Tolerance	+ cm3/1000 strokes : $+$ 1.0
cm3/1000 strokes : 8.0	† Check tolerance
Charles de la company	+ cm3/1000s. : + 4.0
Check tolerance cm3/1000s. : 12.0	+ Spreed + Tolerance
cm3/1000s. : 12.0	+ cm3/1000 strokes : 8.0
Market Maries - Apply restrict Maries (Maries - Apply - Maries - Maries - Apply - Maries - Apply - Apply - Maries - Apply - Apply - Maries - Apply - Apply - Apply - Maries - Apply -	Check tolerance
	+ cm3/1000s. : 12.0
Rated speed rpm : 375	+
	+
Rack travel in mm: 6.20	CONTROL LEUTE
Tolerance mm : +- 0.20 Del. quantity	CONTROL LEVER
cm3/1000 strokes : 19.5	T control lever
Tolerance	position degree : 118.0
cm3/1000 strokes : + 3.0	tolerance degree : +- 6.0
Check tolerance	+
cm3/1000s. : +- 5.0	+ RATED SPEED
Spreed	+ rack travel mm : 12.70
Tolerance cm3/1000 strokes : 4.0	+ Rated speed rpm : 1325 + Tolerance 1/min : +- 25
Check tolerance	T Toterance Trimin : += 25
cn3/1000s. : 8.0	rack travel mm : 6.60
	+ Rated speed rpm : 1500
	† Tolerance 1/min : +- 5
(B) SETTING OF INJECTION PUMP	† 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2
WITH GOVERNOR	+ rack travel mm : 0.50 → Tolerance mm : ← 0.50
	→ Tolerance mm : ← 0.50 → Rated speed rpm : 1700
GUIDE SLEEVE TRAVEL	- Nated Speed 1 pm · 1100
	+
Rated speed rpm : 1412	+
guide sleeve	1011 701 5
travel mm : 9.88 Tolerance mm : +- 0.15	T LOW IDLE
	$oxed{\bot}$
Rated speed rpm : 420	+ control lever
guide sleeve	position degree : 65.0
travel mm : 1.56	tolerance degree : +- 6.0
Tolerance mm : + 0.20	Company Lawrence and the company
Rated speed rpm : 1020	+ Control lever difference + Grad : 53.0
Rated speed rpm : 1020 guide sleeve	tolerance degree : +- 6.0
travel mm : 5.97	+
Tolerance mm : +- 0.25	+ Testing:
	+
Rated speed rpm : 2000	Rated speed rpm : 375
guide sleeve travel mm : 13.50	rack travel mm : 6.20 Tolerance mm : +- 0.20
E1 44 C F 11911 . 17.70	1 10001 01100 11111 . 1 0.20

mand and a		
Rated speed rpm :	+	FUEL DELIVERY CHARACTERISTICS
CRT mm min. :	> 7.00	Aneroid pressure
Rated speed rpm :	425	hPa : 1200 Rated speed rpm : 800
TORQUE CONTROL	<u> </u>	Del. quantity cm3/1000 strokes : 123.5 Tolerance
rack travel mm :	1250 13.75	cm3/1000 strokes : +- 3.0 Check tolerance
	+ 0.05	cm3/1000s. : +- 6.0 Spreed Tolerance
Rated speed rpm : rack travel mm : Tolerance mm :	11.70 + 0.10	cm3/1000 strokes : 8.0 Check tolerance
Rated speed rpm :	1000	cm3/1000s. : 12.0
rack travel mm : Tolerance mm :	+ 0.20	Aneroid pressure hPa : - Rated speed rpm : 1250
ANEROID/ALTITUDE COMPENSATOR TEST		Del. quantity cm3/1000 strokes : 96.0 Tolerance
SETTING	+	cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
-	1050	- CIM3/ 10003.
Rated speed rpm : Pressure hPa :	1250 1200	STARTING FUEL DELIVERY
Pressure hPa :		
Rated speed rpm : rack travel mm : Tolerance mm :	9.40 +- 0.20	rack travel mm : 11.70
MEASUREMENT	1	Rated speed rpm : 100 rack travel mm : 11.70 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 157.0
Rated speed rpm :	1250	Tolerance cm3/1000 strokes : +- 20.0
Pressure hPa : rack travel mm : Tolerance mm :	440 12.55 +- 0.30	Check tolerance cm3/1000s. : + 25.0
Pressure hPa : rack travel mm : Tolerance mm :	265 10.80 + 0.20	LOW IDLE
Start interlock	‡	Rated speed rpm : 375 Del. quantity
	> 100 < 300	cm3/1000 strokes : 19.5 Tolerance cm3/1000 strokes : +- 3.0
Check speed 1/min :	> 80	Check tolerance cm3/1000s. : +- 5.0 Spreed
Check	< 310	Tolerance cm3/1000 strokes : 4.0
	‡	Check tolerance cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.04.97 Test oil : ISO 4113

Combination No. : F 002 A0Z 041

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV500...1100A0C923R

Governer no. : F 002 A20 231

Cust. part No. : 3932476

Customer-spec. information

Customer : CDC Motor

: 6BT

Power KW

: 75.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0

Tolerance bar : + 1.0

Prastroke mm : 2.85
Tolerance mm : +- 0.05

Check

: **←** 0.10 tolerance mm

Rack travel in mm : 10.50

Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 : +- 0.50 Phasing

Tolerance

Check

tolerance °NW

: **←** 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00

Tolerance : \leftarrow 0.50

Check

tolerance 'NW

: +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 9.00

Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 70.5	Aneroid pressure hPa : - Del. quantity
Tolerance cm3/1000 strokes : + 1.0	cm3/1000 strokes : 70.5 Tolerance
Check tolerance cm3/1000s. : + 3.0	<pre>cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0</pre>
Spreed	Spreed Tolerance
Tolerance cm3/1000 strokes : 3.5	cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0
Check tolerance cm3/1000S. : 6.0	
	CONTROL LEVER
Rated speed rpm : 500	control lever position degree : 98.0
Rack travel in mm: 5.00 Tolerance mm: :+ 0.10 Del. quantity	RATED SPEED rack travel mm : 8.00 Rated speed rpm : 1145
cm3/1000 strokes : 18.5	Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0 + Check tolerance cm3/1000s. : + 4.5 +	rack travel mm : 4.00 Rated speed rpm : 1240
cm3/1000S. : + 4.5 + Spreed + Tolerance	Tolerance 1/min : + 5 rack travel mm : 0.85
cm3/1000 strokes : 3.5 Check tolerance	Tolerance mm : +- 0.55 Rated speed rpm : 1400
cm3/1000s. : 5.5	rack travel mm : 4.00 Rated speed rpm : 1250
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 84.0 Control lever difference
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Grad : 14.0 tolerance degree : + 6.0
governor spring + pre-tension +	Setting point w/out bumper spring Rated speed rpm : 500
click setting x : 2.75	rack travel mm : 4.50 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Testing:
Rated speed rpm : 1100	Rated speed rpm : 500 rack travel mm : 5.00

Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100 rack travel mm : 9.00 Tolerance mm : + 0.05

Rated speed rpm : 750 rack travel mm : 9.60 Tolerance mm : + 0.10

Start interlock

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : - 750

Del. quantity

cm3/1000 strokes : 76.5

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 120.5

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : +- 15.0

LOW IDLE

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 18.5

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.04.97 Test oil : ISO 4113

Combination No. : F 002 A0Z 042

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV500...1100A0C924R

Governer no. : F 002 A20 232

Cust. part No. : 3932477

Customer—spec. information Customer : CDC Motor : 68T

Motor : 68T Power KW : 82.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : G-60-120-180-240

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00 Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 9.85
Tolerance mm: + 0.05

Del. quantity cm3/1000 strokes : 78.5

G28

	Del. quantity
Tolerance	cm3/1000 strokes : 78.5
cm3/1000 strokes : +- 1.0	Tolerance
	cm3/1000 strokes : +- 1.0
Check tolerance	Check tolerance
cm3/1000s. : +- 3.0	+ cm3/1000s. + 3.0
C	- Spreed
Spreed	Tolerance cm3/1000 strokes : 3.5
Tolerance	cm3/1000 strokes : 3.5 Check tolerance
cm3/1000 strokes : 3.5	cm3/1000s. : 6.0
-	
Check tolerance	
cm3/1 000 s. : 6.0 -	
	CONTROL LEVER
7	
Rated speed rpm : 500	control lever position degree : 95.0
Rated speed rpm : 500	tolerance degree : +- 4.0
Rack travel in mm : 5.10	Locerance degree 4.0
Tolerance mm : + 0.10	RATED SPEED
Del. quantity	rack travel mm : 8.80
cm3/1000 strokes : 18.5	Rated speed rpm : 1165
Tolerance	Tolerance 1/min : + 5
cm3/1000 strokes : +- 2.0	5 /0
Check tolerance - cm3/1000s. : +- 4.5	rack travel mm : 5.40 Rated speed rpm : 1235
Spreed -	Tolerance 1/min : +- 5
Tolerance	Total arise training.
cm3/1000 strokes : 3.5	rack travel mm : 0.85
Check tolerance	Tolerance mm : +- 0.55
cm3/1 000 \$. : 5.5 -	Rated speed rpm : 1400
7	The state of the s
(B) SETTING OF INJECTION PUMP	rack travel mm : 5.40 Rated speed rpm : 1240
WITH GOVERNOR	r Rated Speed (Mill : 1240
W2111 000010111	
-	
GUIDE SLEEVE POSITION	LOW IDLE
• 	
control lever	control lever
position degree : - 3	position degree : 80.0
Rated speed rpm : 800	tolerance degree : +- 4.0
0.01	L. Control Invariantes
Rack travel in mm : 0.50 - Tolerance mm : + 0.20 -	Control lever difference Grad : 15.0
Tolerance mm : + 0.20	tolerance degree : +- 6.0
governor spring	
pre-tension -	Setting point w/out bumper spring
click setting x : 2.25	
1	Rated speed rpm : 500
FIRE LOAD DELTURDY AT FIRE LOAD OFFI	rack travel mm : 4.60
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
Rated speed rpm : 1100	Testing:
Aneroid pressure	
hPa : -	Rated speed rpm : 500
•	rack travel mm : 5.10
·	

Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

: 1100 Rated speed rpm rack travel mm 9.85 : Tolerance mm : +- 0.05

800 Rated speed rpm : rack travel mm : 10.90 Tolerance mm : +- 0.10

Start interlock

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 800 Rated speed rpm Del. quantity

cm3/1000 strokes : 90.5

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s.4.0 : +-

STARTING FUEL DELIVERY

Rated speed rpm : 100 : rack travel mm 20.50 Tolerance man : ⊹- 0.50

Del. quantity

cm3/1000 strokes : 120.5

Tolerance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

cm3/1000s. : +- 15.0

LOW IDLE

500 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 18.5

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s.: +-4.5 Spreed Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 5.5

End of test specification sheet

HO2

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.04.97 Test oil : ISO 4113

Combination No. : 0 402 046 862

Injection pump

Pump designation : PES6P120A320RS3337

EP type number : 0 412 026 770

Governor

Governer design. : RQV300...1250PA1149K

Governer no. : 0 421 815 416

Cust. part No. : CCEP 5141A 66-218

Customer-spec. information

Customer : RENAULT V.I. : MIDR 06-02-26 V4 Motor

Power KW : 133.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 2.5

Test mozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.10 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 : +- 0.30 Phasing

Tolerance

Check

tolerance *NW : +- 0.50

Start of delivery mark

*NW after s.o.d. : -0.18

Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

10.50 travel Difference * CS : 2.00

CRT ZERO POSITION

Rack travel in mm : 11.20 Tolerance mm : + 0.05	+ Rated speed rpm : 905 + guide sleeve + travel mm : 6.54 + Tolerance mm : + 0.25
BASIC SETTING	+
Rated speed rpm : 1250	Rated speed rpm : 381 guide sleeve travel mm : 2.38
Del. quantity cm3/1000 strokes : 153.0	Tolerance mm : +- 0.25 Rated speed rpm : 431
Tolerance cm3/1000 strokes : + 1.0	guide sleeve travel mm : 2.98 Tolerance mm : + 0.25
Check tolerance cm3/1000s. : + 4.0	Rated speed rpm : 530
Spreed	travel mm : 3.77 Tolerance mm : + 0.25
Tolerance cm3/1000 strokes : 5.0	Rated speed rpm : 1580
Check tolerance cm3/1000s. : 9.0	travel mm : 13.50 Tolerance mm : + 0.50
	GUIDE SLEEVE POSITION
Rated speed rpm : 300	†
Rack travel in mm: -6.30 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 34.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance	control lever position degree : - 1 Rated speed rpm : 1380 Rack travel in mm : 10.50 Tolerance mm : +- 1.30
cm3/1000s. : +- 5.0 Spreed Tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0	Rated speed rpm: : 1250 Aneroid pressure hPa : 1000
	Del. quantity cm3/1000 strokes : 153.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
GUIDE SLEEVE TRAVEL	cm3/1000s. : + 4.0 + Spreed + Tolerance
Rated speed rpm : 1346 guide sleeve	+ cm3/1000 strokes : 5.0 + Check tolerance
travel mm : 10.55 Tolerance mm : + 0.15	cm3/1000s. : 9.0
Rated speed rpm : 300 guide sleeve travel mm : 1.31 Tolerance mm : + 0.20	CONTROL LEVER

control lever position degree tolerance degree RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: ← 4.0 : −1.00	Rated speed rpm : 1250 Pressure hPa : 1000 Pressure hPa : - Rated speed rpm : 1250 rack travel mm : -1.90 Tolerance mm : +- 0.20 MEASUREMENT
rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm	: + 5 : -10.70 : + 0.50	Rated speed rpm : 1250 Pressure hPa : 160 rack travel mm : -1.30 Tolerance mm : + 0.10 Pressure hPa : 280 rack travel mm : -0.25 Tolerance mm : + 0.05 Start interlock
control lever position degree tolerance degree	: +- 4.0	Rated speed rpm : > 175 Rated speed rpm : < 240 Check speed 1/min : > 155 Check speed 1/min : < 260
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min. Rated speed rpm	: 300 : -6.30 : + 0.10 : 200 : < -5.20 : 400	FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 1000 Rated speed rpm : 850 Del. quantity cm3/1000 strokes : 125.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance
TORQUE CONTROL Rated speed rpm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 850 : -1.35 : + 0.15	Check tolerance cm3/1000s. : +- 6.0 Aneroid pressure hPa : - Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 113.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
ANEROID/ALTITUDE COMPENSATOR TEST	Ţ	

Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 108.0

SETTING

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 300

Del. quantity

cm3/1000 strokes : 34.0

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s. 5.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30.04.97 : ISO 4113 Edition Test oil

Combination No. : 0 402 646 739

Injection pump

Pump designation : PE6P120A320LS7904

EP type number : 0 412 626 961

Governor

Governer design. : RQ750PA1326 Governer no. : 0 421 801 815

Cust. part No. : 04222 3926 KY

Customer-spec. information

Customer : KHD

Motor : BF6M1015/C Fower KW : 239.C

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 033

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 250 Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 6-3-5-2-4-

Phasing : 0-c0-120-180-240 Tolerance : +- 0.30

Check

tolerance *NW : +- 0.50

Start of delivery blocking

*NW after s.o.d. : 300.00 Tolerance : **←** 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 700

1	guide sleeve
	travel mm : 1.00
Rack travel in mm: 12.50 + Tolerance mm: + 0.05	Tolerance mm : + 0.10
Del. quantity	Rated speed rpm : 560 guide sleeve
cm3/1000 strokes : 365.0	travel mm : 3.24 Tolerance mm : +- 0.10
Tolerance cm3/1000 strokes : +- 1.0	Rated speed rpm : 1154
Check tolerance + 4.0 +	guide sleeve travel mm : 12.00
Spreed Spreed	Tolerance mm : +- 0.10 Rated speed rpm : 1230
Tolerance	guide sleeve
cm3/1000 strokes : 5.0	travel mm : 13.50 Tolerance mm : + 0.50
Check tolerance cm3/1000s. : 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
	Rated speed rpm : 700 Aneroid pressure
Rated speed rpm : 300	hPa : - Del. quantity
cm3/1000 strokes : 20.0	cm3/1000 strokes : 365.0 Tolerance
cm3/1000 strokes : +- 3.0 +- Check tolerance	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000s. : +- 6.0 +-	cm3/1000s. : +- 4.0 Spreed
Tolerance cm3/1000 strokes : 8.0	Tolerance cm3/1000 strokes : 5.0
Check tolerance cm3/1000s. : 12.0	Check tolerance cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	CONTROL LEVER
GUIDE SLEEVE TRAVEL	control lever position degree : 109.0
Rated speed rpm : 745	tolerance degree : +- 4.0
guide sleeve travel mm : 4.54 Tolerance mm : + 0.15	RATED SPEED
+	rack travel mm : 0.50 Tolerance mm : +- 0.50
Rated speed rpm : 300 + guide sleeve +	Rated speed rpm : 900
guide steeve travel mm : 1.24 Tolerance mm : + 0.20	ASSEMBLY GOVERNOR SETTING
Rated speed rpm : 860	Rated speed rpm : 750 rack travel mm : 11.50
guide sleeve travel mm : 5.59 Tolerance mm : + 0.10	Rated speed rpm : 780
+	Tolerance 1/min : +- 4 rack travel mm : 5.50
Rated speed rpm : 271 +	

rack travel mm	: 0.50	+
Tolerance mm Rated speed rpm	: ← 0.50 : 900	LOW IDLE
Rated speed rpm rack travel mm		control lever position degree : 67.0 tolerance degree : +- 4.0
Rated speed rpm Tolerance 1/min rack travel mm		TORQUE CONTROL
rack travel mm Tolerance mm	: 0.50 : +- 0.50	Rated speed rpm : 700 rack travel mm : 12.50 Tolerance mm : +- 0.05
Rated speed rpm rack travel mm		Start interlock
Rated speed rpm Tolerance 1/min rack travel mm		Rated speed rpm : > 100 Rated speed rpm : < 560
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : + 0.50 : 900	+ Check + speed 1/min :> 80 + Check + speed 1/min : < 580
Rated speed rpm rack travel mm	: 753 : 11,50	‡
Rated speed rpm Tolerance 1/min		+ STARTING FUEL DELIVERY + Rated speed rpm : 100
rack travel mm	: 5.50	rack travel mm : 20.25 Tolerance mm : + 0.75
rack travel mm Tolerance mm	: 0.50 : +- 0.50	<pre>pel. quantity cm3/1000 strokes : 210.0 Tolerance cm3/1000 strokes : + 20.0</pre>
Rated speed rpm rack travel mm;		Check tolerance : +- 24.0
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4	
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : + 0.50 : 900	LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 20.0
Rated speed rpm rack travel mm	: 755 : 11.50	Tolerance : + 3.0 Check tolerance
Rated speed rpm Tolerance 1/min rack travel mm		+ cm3/1000s. : +- 6.0 + Spreed + Tolerance + cm3/1000 strokes : 8.0
rack travel mm Tolerance mm	: 0.50 : + 0.50	Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.04.97 Test oil : ISO 4113

Combination No. : 0 402 648 702

Injection pump

Pump designation : PE8P120A320LS7875 EP type number : 0 412 628 881

Governor :

Governer design. : RQV250...1150PA1346

Governer no. : 0 421 814 193

Cust. part No. :

Customer—spec. information Customer : DHI Motor : DV15T Power KV : 265.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 125 Tolerance L/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.20 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 16.00 Tolerance mm : + 1.50

Firing order : 8-7-2-6-3

: - 4- 1

Phasing : 0-45-90-135-180

: -270-315

Tolerance : +- 0.30

Check

tolerance $^{\circ}NW$: \leftarrow 0.50

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 13.80 Tolerance mm : + 0.05

	+ guide sleeve
Del. quantity	+ travel mm : 4.65
cm3/1000 strokes : 222.0	
Tolerance	Rated speed rpm : 1390
cm3/1000 strokes : + 1.0	
	+ travel mm : 11.50
Check tolerance	+ Tolerance mm : + 0.50
cm3/1000s. : +- 4.0	
· · · · · · · · · · · · · · · · · · ·	
Spreed	GUIDE SLEEVE POSITION
spr eeu	T GOIDE SCEEVE POSITION
Tolerance	T
cm3/1000 strokes : 7.0	T aantmat lawan
Chipy tour strokes: 7.0	(
Charle Antagan	+ position degree : -1
Check tolerance	+ Rated speed rpm : 1227
cm3/1000s. : 10.0	
	+ Rack travel in mm : 12.80
	† Tolerance mm : + 1.30
Bod and the second	†
Rated speed rpm : 250	
- · · · · · · · · · · · · · · · · · · ·	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: 5.60	l l
Tolerance mm : + 0.10	
Del. quantity	+ Aneroid pressure
cm3/1000 strokes : 20.0	
Tolerance	+ Del. quantity
cm3/1000 strokes : +- 3.0	
Check tolerance	+ Tolerance
cm3/1000s. : +- 6.0	+ cm3/1000 strokes : +- 1.0
Spreed	+ Check tolerance
Tolerance	+ cm3/1000s. : + 4.0
cm3/1000 strokes : 5.0	→ Spreed
Check tolerance	+ Tolerance
cm3/1000s. : 8.0	
	+ Check tolerance
	+ cm3/1000s. : 10.0
(B) SETTING OF INJECTION PUM	
WITH GOVERNOR	<u> </u>
W2 6012	
	CONTROL LEVER
GUIDE SLEEVE TRAVEL	TOTAL SEPER
TIPE OCCUPE (MATCE	- control lever
Rated speed rpm : 1207	position degree : 58.0
guide sleeve	tolerance degree : +- 4.0
travel mm : 8.92	
Tolerance mm : \leftarrow 0.15	
Toterance min . To U. 13	position degree : 122.0
Rated speed rpm : 250	()
	tolerance degree : +- 4.0
guide sleeve	T DATES ODEES
travel mm : 1.31	
Tolerance mm : +- 0.20	
Dahad anard : 4405	+ Rated speed rpm : 1195
Rated speed rpm : 1185	+ Tolerance 1/min : +- 5
guide sleeve	†
travel mm : 8.60	
Tolerance mm : + 0.25	
	† Tolerance 1/min : ← 15
Rated speed rpm : 640	†
	+ rack travel mm : 0.50

Tolerance mm	: +- 0.50 	
Rated speed rpm	: 1400	- Pressure hPa : 350
	+	rack travel mm : 10.00
	+	- Tolerance mm : + 0.20
	+	•
***************************************		- Pressure hPa : 735
LOW IDLE	+	rack travel mm : 12.10
	4	- Tolerance mm : +- 0.05
	4	-
control lever	4	- Start interlock
position degree	: 85.0	•
tolerance degree		- Rated speed rpm : > 165
		- Rated speed rpm : < 190
control lever		
position degree	: 21.0	- Check
tolerance degree		- speed 1/min :> 155
cotto ance and		- Check
Testing:	1	- speed 1/min : < 210
. 00011191	1	
Rated speed rpm	: 250	
rack travel mm		- FUEL DELIVERY CHARACTERISTICS
Tolerance mm	: + 0.10	- OLL PLLIVENT CHMMACTERIOTICS
rocci di toc nan	1	- Aneroid pressure
Rated speed rpm	: 150	- hPa : -
Adeca opeca i piii	. 150	- Rated speed rpm : 650
CRT mm min.	: > 7.30	- Del. quantity
Citt ingi di i i i .	1.50	- cm3/1000 strokes : 241.0
Rated speed rpm	: 300	- Tolerance
Kateu speed rpiii	. 300	- cm3/1000 strokes : +- 3.0
TODOUE CONTROL		- Check tolerance
TORQUE CONTROL	†	- cm3/1000s. : + 6.0
Debad speed sem	. 1150	- Amoustal massassas
Rated speed rpm		- Aneroid pressure
rack travel mm	: 13.80	- hPa : - - Rated speed rom : 500
Tolerance mm	: +- 0.05	
Dated annual com		Del. quantity
Rated speed rpm		- cm3/1000 strokes : 123.0
rack travel mm	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- Tolerance
Tolerance mm	: ← 0.10 	- cm3/1000 strokes : +- 1.0
	†	- Check tolerance
ANDROTO /AL TITUDE		- cm3/1000s. : + 4.0
ANEROID/ALTITUDE	†	•
COMPENSATOR TEST	†	•
	†	CTARTING FUEL RELIGION
CETTING	1	- STARTING FUEL DELIVERY
SETTING	7	. Datad aroad arm . 100
Dahad annad nam	. 500	- Rated speed rpm : 100
Rated speed rpm	: 500	- Del. quantity
Pressure hPa	: 1500	- cm3/1000 strokes : 193.0
rack travel mm	: 13.80	- Tolerance
Tolerance mm	: ← 0.05	- cm3/1000 strokes : +- 20.0
Onenaire La	1	- Check tolerance
Pressure hPa	500	- cm3/1000s. : + 24.0
Rated speed rpm		•
rack travel mm	: 8.10	•
Tolerance mm	: ← 0.20 +	•
***	†	
MEASUREMENT	†	- LOW IDLE
5 .4.4	too †	. Date described
Rated speed rpm	: 500 +	Rated speed rpm : 250

Del. quantity cm3/1000 strokes	:	20.0	
Tolerance cm3/1000 strokes	: +-	3.0	
Check tolerance cm3/1000s. Spreed	: +	6.0	
Tolerance cm3/1000 strokes		5.0	
Check tolerance cm3/1000s.	•	8.0	
	•		

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 29,04,97

Test oil

: ISO 4113

Combination No. : 0 402 648 780A

Injection pump

Pump designation : PE8P120A320LS7871

EP type number : 0 412 628 877

Governor

Governer design. : RQV300...1050PA1078

: 2K

Governer no.

: 0 421 815 548

Cust. part No. : 988 04 47

Customer-spec. information

Customer : LIEBHERR

Motor

: D 9408 TI-EA3

Power KW

: 420.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve

: 1 417 413 047

Inlet press. bar :

2.0

Tolerance bar

: +- 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar

: **←** 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter :

3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

: 1-8-7-2-6 Firing order

: - 5- 4

Phasing : 0-45-90-135-180

: -270-315 Tolerance : **←** 0.30

Check

tolerance *NW

: **←** 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.65

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes :

295.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 4.0

Spreed

	•
Tolerance	t control lever
cm3/1000 strokes : 5.0	position degree : - 1 Rated speed rpm : 1182
Check tolerance	+
cm3/1000s. : 9.0	Rack travel in mm : 12.48 Tolerance mm : + 1.30
	İ
Rated speed rpm : 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 4.50	Rated speed rpm : 1050
Tolerance mm : +- 0.10	+ Aneroid pressure
Del. quantity cm3/1000 strokes : 15.0	+ hPa : 1600
Tolerance	+ Del. quantity + cm3/1000 strokes : 295.0
cm3/1000 strokes : +- 3.0	Tolerance
Check tolerance	+ cm3/1000 strokes : +- 1.0
cm3/1000s. : +- 6.0	+ Check tolerance
Spr ee d Tolerance	+ cm3/1000s. : +- 4.0
cm3/1000 strokes : 6.0	+ Spreed + Tolerance
Check tolerance	- cm3/1000 strokes : 5.0
cm3/1 000 s. : 16.0	+ Check tolerance
	+ cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER
	+
GUIDE SLEEVE TRAVEL	+ control lever
Rated speed rpm : 1117	<pre>position degree : 121.0 tolerance degree : +- 4.0</pre>
guide sleeve travel ma : 10.27	+ RATED SPEED
Tolerance mm : + 0.15	rack travel mm : 11.65
	Rated speed rpm : 1120
Rated speed rpm : 300	<pre>† Tolerance 1/min : ← 5</pre>
guide sleeve travel mm : 1.11	+ rack travel mm : 4.00
Tolerance mm : +- 0.20	Rated speed rpm : 1210
	+ Tolerance 1/min : + 15
Rated speed rpm : 755	+
guide sleeve travel mm : 6.17	+ rack travel mm : 0.50 + Tolerance mm : + 0.50
Tolerance mm : + 0.25	Rated speed rpm : 1300
Rated speed rpm : 480	Ţ
guide sleeve	+
travel mm : 3.75	
Tolerance mm : + 0.25	+ LOW IDLE
Rated speed rpm : 1330	I
guide sleeve	+ control lever
travel mm : 13.50	position degree : 71.0
Tolerance mm : +- 0.50	tolerance degree : +- 4.0
OUTDE OF SELECTION	Testing:
GUIDE SLEEVE POSITION	+ Rated speed rpm : 350

made Anguel	. / 50	1
rack travel mm Tolerance mm		† Start interlock
rocerance limit	. +- 0.10	I start intertock
Rated speed rpm	: 300	Rated speed rpm : > 100
	. 555	+ Rated speed rpm : < 270
CRT mm min.	: > 5.50	+
		+ Check
Rated speed rpm	: 400	+ speed 1/min : > 80
		+ Check
TODOUE CONTROL		+ speed 1/min : < 290
TORQUE CONTROL		†
Rated speed rpm	• 1050	FUEL DELIVERY CHARACTERISTICS
rack travel mm		TOLE DELIVERY CHARACTERISTICS
Tolerance mm	: + 0.05	Aneroid pressure
		+ hPa : 1600
Rated speed rpm rack travel mm	: 500	Rated speed rpm : 500
rack travel mm Tolerance mm	: 10.00	+ Del. quantity
Tolerance mm	: ← 0.10	+ cm3/1000 strokes : 276.0
		+ Tolerance
Rated speed rpm		+ cm3/1000 strokes : +- 3.0
rack travel mm		+ Check tolerance
Tolerance mm	: +- 0.10	+ cm3/1000s. : +- 6.0
Rated speed rpm	• 950	+ Aneroid pressure
rack travel mm	12.20	+ hPa : 1600
Tolerance mm	: + 0.10	Rated speed rpm : 800
		+ Del. quantity
Rated speed rpm	: 600	+ cm3/1000 strckes : 299.0
rack travel min Tolerance mm	: 10.80	† Tolerance
Tolerance mm	: ← 0.20	+ cm3/1000 strokes : +- 3.0
		+ Check tolerance
ANIFOOTO /AL TYTUDE		
ANEROID/ALTITUDE COMPENSATOR TEST		Anaraid programs
COMPENSATOR 1631		+ Aneroid pressure + hPa : -
		Rated speed rpm : 550
SETTING		+ Del. quantity
		- cm3/1000 strokes : 209.0
Rated speed rpm		- Tolerance
Pressure hPa	: 1600	+ cm3/1000 strokes : +- 1.0
rack travel mm	: 12.65	+ Check tolerance
Tolerance mm	: ← 0.05	+ cm3/1000s. : +- 4.0
Dranaura hDa		+ Spreed
Pressure hPa Rated speed rpm	1050	+ Tolerance + cm3/1000 strokes : 8.0
rack travel mm	: 8.30	+ Check tolerance
Tolerance mm	: ← 0.20	- cm3/1000s. : 12.0
TO COLOTTOC TIME	0.00	+ 12:0
MEASUREMENT		}
		
Rated speed rpm	: 1050	+ STARTING FUEL DELIVERY
<u> </u>	4655	†
Pressure hPa	: 1050	+ Rated speed rpm : 100
rack travel mm		+ rack travel mm : 9.20
Tolerance mm	: +- 0.05	+ Tolerance mm : +- 0.30
Pressure hPa	: 700	+ Del. quantity + cm3/1000 strokes : 140.0
rack travel mm	: 700 : 9.50	+ Tolerance
Tolerance mm	: +- 0.20	cm3/1000 strokes : +- 15.0
. TO GIVE WILL		1 0110/1000 00/10/00 1 1 12/0

Check tolerance		
cm3/1000s.	: +-	19.0

•	A 1	TAL	_
1	UL	TDI	-

Rated speed rpm Del. quantity	•	350	
cm3/1000 strokes	:	15.0	
Tolerance cm3/1000 strokes	: +-	3.0	
Check tolerance cm3/1000s.	: +-	6.0	
Spreed Tolerance			
cm3/1000 strokes Check tolerance	:	6.0	
cm3/1000s.	:	10.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.04.97 Test oil : ISO 4113

Combination No. : 0 402 648 784

Injection pump

Pump designation : PE8P12OA32OLS7845 EP type number : 0 412 628 861

Governor

Governer design. : RQV350...1050PA1324

Governer no. : 0 421 814 187

Cust. part No. : 0280740202

Customer—spec. information
Customer : MB-NFZ
Motor : 04402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlat line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Overflow quantity

min. l/h : 120 Tolerance l/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

Check

tolerance min : +- 0.70

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

: - 4- 1

Phasing : 0-45-90-135-180

: -270-315

Tolerance : + 0.30

Check

tolerance $^{\circ}NW$: \leftarrow 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : + 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.80

Tolerance mm : +- 0.05

1	- guide sleeve
Del. quantity	- travel mm : 3.56
cm3/1000 strokes : 208.0	- Tolerance mm : +- 0.25
	_
Tolerance	- Rated speed rpm : 1197
cm3/1000 strokes : + 1.0	- guide sleeve
Check tolerance	- travel mm : 10.00
cm3/1000s. : +- 4.0	- Tolerance mm : +- 0.25
	- Rated speed rpm : 1290
Spreed	guide sleeve
-	- travel mm : 11.50
Tolerance	- Tolerance mm : +- 0.50
cm3/1000 strokes : 6.0	<u>-</u>
Check tolerance	CHINE OF FELLE DOCUTION
cm3/1000s. : 9.0	- GUIDE SLEEVE POSITION
. 7.5	
	- control lever
+	- position degree : - 1
Rated speed rpm : 350	- Rated speed rpm : 1154
Book Assess to as 5.40	neal Association 40.00
Rack travel in mm: 5.10	Rack travel in mm: 12.90
Tolerance mm : +- 0.10	Tolerance mm : + 1.30
Del. quantity cm3/1000 strokes : 13.0	
Tolerance	- FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : + 3.0	L LONG DECIVERY AT TOLL LONG OFFI
Check tolerance	- Rated speed rom : 1050
cm3/1000s. : +- 6.0	- Aneroid pressure
Spreed	- hPa : 1300
Tolerance	- Del. quantity
cm3/1000 strokes : 6.0	- cm3/1000 strokes : 208.0
Chack tolerance cm3/1000s. : 10.0	- Tolerance - cm3/1000 strokes : +- 1.0
cm3/100US. : 10.0	- Check tolerance
	- cm3/1000s. : +- 4.0
(B) SETTING OF INJECTION PUMP	- Spreed
WITH GOVERNOR	- Tolerance
+	- cm3/1000 strokes : 6.0
	- Check tolerance
GUIDE SLEEVE TRAVEL	- cm3/1000s. : 9.0
Rated speed rpm : 1107	
guide steeve	
travel mm : 8.18	- CONTROL LEVER
Tolerance mm : +- 0.15	-
	- control lever
Rated speed rpm : 350	- position degree : 121.0
guide sleeve	- tolerance degree : +- 4.0
travel mm : 2.02 - Tolerance mm : +- 0.20	- RATED SPEED
TOTAL CHILD : TT U.ZU	- rack travel mm : 12.80
Rated speed rpm : 890	- Rated speed rpm : 1095
guide sleeve	- Tolerance 1/min : +- 5
travel mm : 5.70	-
Tolerance mm : +- 0.25	rack travel mm : 4.00
P -4-1	- Rated speed rpm : 1175
Rated speed rpm : 550	- Tolerance 1/min : +- 15
	-

nade denoted des	. 0.76	
rack travel mm Tolerance mm		Pressure hPa : 750
Rated speed rpm		Pressure hPa : 750 rack travel mm : 2.40
Rated Speed (bill	· 1330	Tolerance mm : + 0.15
	I	Totelance man 0.15
		Start interlock
LOW IDLE	1	Rated speed rpm :> 100
	+	Rated speed rpm : < 270
	+	
control lever	t	Check
position degree		speed 1/min : > 80
tolerance degree	: +- 4.0 +	Check
Testing:	†	speed 1/min : < 280
resumg:	I	
Rated speed rpm	: 350	FUEL DELIVERY CHARACTERISTICS
rack travel mm	: 5.10	
Tolerance mm	: + 0.10 +	Aneroid pressure
	+	hPa : 1300
Rated speed rpm	: 250	Rated speed rpm : 700
	†	Del. quantity
CRT mme min.	: > 7.10	cm3/1000 strokes : 234.0
Dated aread par	: 415	Tolerance cm3/1000 strokes : +- 2.0
Rated speed rpm	• 40	Check tolerance
	I	cm3/1000s. : +- 5.0
TORQUE CONTROL	I	Spreed
1011402 001111102	1	Tolerance
Rated speed rpm	: 1050	cm3/1000 strokes : 8.0
rack travel mm		Check tolerance
Tolerance mm	: + 0.05 +	cm3/1000s. : 12.0
-	+	
Reted speed rom		Aneroid pressure
rack travel mm Tolerance mm	: 14.60 : + 0.10	hPa : 1300 Rated speed rpm : 1050
TO CET SITUE AND	I	Del. quantity
Rated speed rpm	: 900	cm3/1000 strokes : 156.0
rack travel mm		Tolerance
Tolerance min		cm3/1000 strokes : + 2.0
	+	Check tolerance
Rated speed rpm	: 1050 +	cm3/1000s. : + 5.0
rack travel mm	: 10.80	• •
Tolerance mm	: + 0.15	Aneroid pressure
		hPa : - Rated speed rpm : 500
ANEROID/ALTITUDE	I	Del. quantity
COMPENSATOR TEST		cm3/1000 strokes : 135.0
	1	Tolerance
	+	cm3/1000 strokes : +- 1.0
SETTING	+	Check tolerance
	+	cm3/1000s. : +- 4.0
Pressure hPa	500	Spreed
Rated speed rpm	: 500	Tolerance
MEACHDEMENT	†	cm3/1000 strokes : 8.0 Check tolerance
MEASUREMENT	Ī	cm3/1000s. : 12.0
Pressure hPa	: 350 I	. (2.0
rack travel mm	: 0.65	
Tolerance mm	: +- 0.05	
	•	

STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity

cm3/1000 strokes : 250.0

Tolerance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance cm3/1000s. : +- 14.0

LOW IDLE

Rated speed rpm 350 Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-

3.0

Check tolerance

cm3/1000s.6.0

Spreed Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 25.04.97 : ISO 4113 Edition Test oil

Combination No. : 0 402 670 803

Injection pump

Pump designation : PE12P12OA520/5RS7146

EP type number : 0 412 620 808

Governor

Governer design. : RSUV325...1150P0A358

Governer no. : 0 421 829 105

Cust. part No. :

Customer-spec. information

Customer : MWM

: TBD234V12 Hotor

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-2A- 9-10A- 5- 6A

: 11-12A- 3- 4A- 7

: 8A (A=Abschalteleme

: nte)

: 0-30-60-90-120-150 Phasing

: 180-210-240-270-300

: 330

: ← 0.30 Tolerance

Check

tolerance *NW : + 0.50

Start of delivery mark

Tolerance : + 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 800

Rack travel in mm: 14.95

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 261.0

	_ ,	+ De
Tolerance cm3/1000 strokes	: + 1.0	CI To
Check tolerance cm3/1000s.	: + 4.0	CI
Spreed		Sr To
Tolerance cm3/1000 strokes	: 5.0	cr Cl cr
Check tolerance cm3/1000s.	: 9.0	
		C
Rated speed rpm	: 325	po
Rack travel in mm Tolerance mm Del. quantity	: 6.10 : + 0.10	+ co
cm3/1000 strokes Tolerance	: 35.0	t po
cm3/1000 strokes Check tolerance	: ← 5.0	R/
cm3/1000s. Spreed Tolerarice	: +- 8.0	Ra To
cm3/1000 strokes Check tolerance	: 6.0	ra Ra
cm3/1000s.	: 10.0	To
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP	ra To Ra
GUIDE SLEEVE POSI	TION	+ - - L(
control lever position degree	: - 3	c
Rated speed rpm	: 800	t po
Rack travel in mm Tolerance mm	: 0.50 : \(\dots \) 0.20	CO
governor spring pre-tension click setting x	: 4.00	to Se
		Ra
FULL LOAD DELIVER	Y AT FULL LOAD STOP	r
Rated speed rpm Aneroid pressure	: 800	Te
hPa	: 900 -	D.

Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 261.0 : ← 1.0 : ← 4.0 : 5.0 : 9.0
CONTROL LEVER	
control lever position degree tolerance degree	: 60.0 : + 4.0
control lever position degree tolerance degree	
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 13.90 : 1195 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1295 : +- 15
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1440
LOW IDLE	
control lever position degree	: 73.0

colerance degree : + 4.0

ontrol lever

position degree : 23.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm rack travel mm 325 6.60 : + 0.20 Tolerance mm

Testing:

rack travel mm : 6.10	+ Aneroid pressure
Tolerance mm : + 0.10	+ hPa : -
_	+ Rated speed rpm : 1100
rack travel mm : 2.00	+ Del. quantity
Rated speed rpm : 470	+ cm3/1000 strokes : 0.1
Tolerance 1/min : + 30	+ Tolerance
TO COLORIDE TAMELE . The SU	+ cm3/1000 strokes : + 0.1
	T UID/ TOUD STROKES : TU.
TOPOLIE CONTROL	T Annual manager
TORQUE CONTROL	+ Aneroid pressure
m	+ hPa : -
Rated speed rpm : 800	+ Rated speed rpm : 1100
rack travel mm : 14.95	+ Del. quantity
Tolerance mm : +- 0.05	+ cm3/1000 strokes : 45.0
	+ Tolerance
Rated speed rpm : 1150	+ cm3/1000 strokes : + 25.0
rack travel mm : 14.95	}
Tolerance mm : + 0.10	+ Aneroid pressure
- -	
Rated speed rpm : 1100	Rated speed rpm : 500
rack travel mm : 5.00	+ Del. quantity
Tolerance mm : + 0.10	+ cm3/1000 strokes : 130.0
10101 WI 1	Tolerance
Rated speed rpm : 1100	- cm3/1000 strokes : +- 2.0
nuck tenand mm . 7 CO	
rack travel mm : 7.60	+ Check tolerance
Tolerance mm : +- 0.10	+ cm3/1000s. : $+$ 4.0
	†
ANDROAD / AL TITLE	†
ANEROID/ALTITUDE	
COMPENSATOR TEST	STARTING FUEL DELIVERY
	+
	1 -
	Rated speed rpm : 100
SETTING	+ Del. quantity
	Del. quantity + cm3/1000 strokes : 220.0
Pressure hPa : -	Del. quantity cm3/1000 strokes : 220.0 Tolerance
Pressure hPa : - Rated speed rpm : 500	Del. quantity + cm3/1000 strokes : 220.0
Pressure hPa : - Rated speed rpm : 500	Del. quantity cm3/1000 strokes : 220.0 Tolerance
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50	Del. quantity cm3/1000 strokes : 220.0 Tolerance
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50	Del. quantity cm3/1000 strokes : 220.0 Tolerance
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10	Del. quantity cm3/1000 strokes : 220.0 Tolerance
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT	Del. quantity cm3/1000 strokes : 220.0 Tolerance
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725 rack travel mm : 14.75	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE Rated speed rpm : 325
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE Rated speed rpm : 325 Del. quantity
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725 rack travel mm : 14.75 Tolerance mm : + 0.05	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 35.0
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725 rack travel mm : 14.75	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 35.0 Tolerance
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725 rack travel mm : 14.75 Tolerance mm : + 0.05	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : +- 20.0 LOW IDLE Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 strokes : +- 5.0
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725 rack travel mm : 14.75 Tolerance mm : + 0.05	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725 rack travel mm : 14.75 Tolerance mm : + 0.05 Start interlock	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725 rack travel mm : 14.75 Tolerance mm : + 0.05	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0 Spreed
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725 rack travel mm : 14.75 Tolerance mm : + 0.05 Start interlock FUEL DELIVERY CHARACTERISTICS	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0 Spreed Tolerance
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725 rack travel mm : 14.75 Tolerance mm : + 0.05 Start interlock FUEL DELIVERY CHARACTERISTICS Aneroid pressure	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0 Spreed Tolerance cm3/1000 strokes : 6.0
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725 rack travel mm : 14.75 Tolerance mm : + 0.05 Start interlock Aneroid pressure hPa : 900	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725 rack travel mm : 14.75 Tolerance mm : + 0.05 Start interlock FUEL DELIVERY CHARACTERISTICS Aneroid pressure	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0 Spreed Tolerance cm3/1000 strokes : 6.0
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725 rack travel mm : 14.75 Tolerance mm : + 0.05 Start interlock Aneroid pressure hPa : 900	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725 rack travel mm : 14.75 Tolerance mm : + 0.05 Start interlock FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 900 Rated speed rpm : 150	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725 rack travel mm : 14.75 Tolerance mm : + 0.05 Start interlock Aneroid pressure hPa : 900 Rated speed rpm : 1150 Del. quantity cm3/1000 strokes : 260.0	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725 rack travel mm : 14.75 Tolerance mm : + 0.05 Start interlock FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 900 Rated speed rpm : 1150 Del. quantity cm3/1000 strokes : 260.0 Tolerance	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725 rack travel mm : 14.75 Tolerance mm : + 0.05 Start interlock FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 900 Rated speed rpm : 1150 Del. quantity cm3/1000 strokes : 260.0 Tolerance cm3/1000 strokes : + 3.0	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725 rack travel mm : 14.75 Tolerance mm : + 0.05 Start interlock FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 900 Rated speed rpm : 1150 Del. quantity cm3/1000 strokes : 260.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 10.0
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 9.50 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : 725 rack travel mm : 14.75 Tolerance mm : + 0.05 Start interlock FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 900 Rated speed rpm : 1150 Del. quantity cm3/1000 strokes : 260.0 Tolerance cm3/1000 strokes : + 3.0	Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 LOW IDLE Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.04.97 Test oil : ISO 4113

Combination No. : 0 402 676 830

Injection pump

Pump designation : PE6P12OA32OLS7894 EP type number : 0 412 626 954

Governor

Governer design. : RSV600...1050P0A642

Governer no. : 0 421 833 556

Cust. part No. : 0270746002

Customer-spec. information Customer : MB-NFZ Motor : CM 441 LA Power KW : 285.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 105 Tolerance L/h : ← 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.75
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 19.00 Tolerance mm : + 0.50

Firing order : 6-3-5-2-4-

: 1

Phasing : 0-45-120-165-240

: 5

Tolerance : \leftarrow 0.30

Check

tolerance *NW : +- 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : + 0.75

Barrel no. : 6

BASIC SETTING

	1	
Rack travel in mm Tolerance mm	: 13.70 : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes	: 251.0	Rated speed rpm : 1075 Aneroid pressure hPa : -
Tolerance cm3/1000 strokes	: + 1.0	Del. quantity cm3/1000 strokes : 251.0 Tolerance
Check tolerance cm3/1000s.	: + 4.0	cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
Spreed		Spreed Tolerance
Tolerance cm3/1000 strokes	: 6.0	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
Check tolerance cm3/1000s.	: 9.0	. ,
		CONTROL LEVER
Rated speed rpm	: 600	control lever position degree : 89.0
Rack travel in mm Tolerance mm Del. quantity	: + 4.10 : + 0.10	tolerance degree : +- 4.0 RATED SPEED
cm3/1000 strokes Tolerance	+	rack travel mm : 12.70 Rated speed rpm : 1115
cm3/1000 strokes Check tolerance cm3/1000s.	: + 3.0 : + 6.0	Tolerance 1/min : +- 5 Check speed 1/min : +- 10
Spreed Tolerance	1	speed triiini
cm3/1000 strokes Check tolerance cm3/1000s.	: 8.0	LOW IDLE
	+	
(B) SETTING OF INWITH GOVERNOR	JECTION PUMP	<pre>control lever position degree : 73.0 tolerance degree : +- 4.0</pre>
CHAR CLEENE DOCT		Testing:
GUIDE SLEEVE POSI	† †	Rated speed rpm : 600
control lever position degree	:-3	rack travel mm : 4.10 Tolerance mm : +- 0.10
Rated speed rpm Rack travel in mm	+	rack travel mm : 2.00 Rated speed rpm : 630 Tolerance 1/min : +- 30
Tolerance mm		SET IDLE AUXILIARY SPRING
governor spring pre-tension click setting x	: 1.50	rack travel mm : 2.00
-	‡	TORQUE CONTROL

Rated speed rpm : 1075
rack travel mm : 13.70
Tolerance mm : +- 0.05

Rated speed rpm : 800 rack travel mm : 14.75 Tolerance mm : + 0.10

Rated speed rpm : 1000 rack travel mm : 14.35 Tolerance mm : + 0.15

Start interlock

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Reted speed rpm : 800

Del. quantity

cm3/1000 strokes : 291.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 290.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 600

Del. quantity

cm3/1000 strokes : 17.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance

cm3/1000s. : + 6.0

Spreed Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.04.97 Test oil : ISO 4113

Combination No. : 0 402 678 816

Injection pump

Pump designation : PE8P12OA32OLS7857 EP type number : 0 412 628 866

Governor

Governer design. : RSV550...1050P0A826

: 3

Governer no. : 0 421 833 382

Cust. part No. : 0230743102

Customer—spec. information
Customer : MB-NFZ
Motor : CM442LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 110 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 2.5

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05 Tolerance mm : +- 0.05

Check

tolerance mm : → 0.10

Rack travel in mm : 20.00 Tolerance mm : +- 1.00

Firing order : 8-7-2-6-3

: - 4- 1

Phasing : 0-45-90-135-180

: -270-315

Tolerance : \leftarrow 0.30

Check

tolerance *NW : + 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1080

Rack travel in mm: 13.55

Toterance mm : +- 0.05	+ Rated speed rpm : 1080 + Aneroid pressure
Del. quantity cm3/1000 strokes : 260.0	+ hPa : - Del. quantity
	+ cm3/1000 strokes : 260.0
Tolerance cm3/1000 strokes : +- 1.0	+ Tolerance + cm3/1000 strokes : +- 1.0 + Check tolerance
Check tolerance cm3/1000S. : + 4.0	+ cm3/1000s. : +- 4.0 + Spreed
	+ Tolerance
Spreed	+ cm3/1000 strokes : 5.0 + Check tolerance
Tolerance cm3/1000 strokes : 5.0	cm3/1000s. : 9.0
Check tolerance	Ţ
cm3/1000S. : 9.0	CONTROL LEVER
	t control lever
	position degree : 90.0
Rated speed rpm : 550	tolerance degree : +- 4.0
Rack travel in mm: 3.80	Ī
Tolerance mm : +- 0.10	ASSEMBLY GOVERNOR SETTING
Del, quantity	† Batadanadana 4444
cm3/1000 strokes : 19.0 Tolerance	+ Rated speed rpm : 1111 + Tolerance 1/min : + 1
cm3/1000 strokes : +- 3.0	+ rack travel mm : 12.50
Check tolerance	-
cm3/1000S. : ← 6.0	Rated speed rpm : 1145
Spreed	Tolerance 1/min : + 4
Tolerance cm3/1000 strokes : 8.0	rack travel mm : 4.00
cm3/1000 strokes : 8.0 Check tolerance	T + rack travel mm : 0.85
cm3/1000s. : 12.0	+ Tolerance mm : + 0.55
	Rated speed rpm : 1300
(D) OFFITAIC OF THIS COTTON DIND	†
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	T Rated speed rpm : 1113
WITH GOVERNOR	Tolerance 1/min : + 1
	rack travel mm : 12.50
CUTAL CLEENE DOCTTION	Poted speed ppp : 44/7
GUIDE SLEEVE POSITION	Rated speed rpm : 1147 Tolerance 1/min : +- 4
	rack travel ma : 4.00
control lever	}
position degree : - 3	rack travel mm : 0.85 Tolerance mm : + 0.55
Rated speed rpm : 800	
Rack travel in mm : 0.50	Rated speed rpm : 1300
Tolerance mm : + 0.20	I
- Coperative new Control of Control	Rated speed rpm : 1115
governor spring	Tolerance 1/min : + 1
pre-tension -	rack travel mm : 12.50
click setting x : 2.00	t Batad annual a
·	Rated speed rpm : 1149
FULL LOAD DELIVERY AT FULL LOAD STOP	+ Tolerance 1/min : +- 4 + rack travel mm : 4.00
FOLL TOWN DELIVERS WI FOLL FOWN STOR	T (ack travet (iii) . 4.00

rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1300	SET IDLE AUXILIARY SPRING
		+ rack travel mm : 2.00
Rated speed rpm Tolerance 1/min rack travel mm	: +- 1	TORQUE CONTROL
Dated aread are	: 1151	+ Rated speed rpm : 1080
Rated speed rpm Tolerance 1/min		+ rack travel mm : 13.55 + Tolerance mm : +- 0.05
rack travel mm		1
	. 0.95	Rated speed rpm : 1000 rack travel mm : 13.70
rack travel mm Tolerance mm	: 0.85 : + 0.55	+ rack travel mm : 13.70 + Tolerance mm : +- 0.10
Tolerance mm Rated speed rpm	: 1300	+ vocer arice link . v 0.10
, ,		Rated speed rpm : 600
Dated and all and	. 4440	rack travel mm : 14.10
Rated speed rpm Tolerance 1/min	: + 1	Tolerance mm : +- 0.10
rack travel mm		Ţ
		Start interlock
Rated speed rpm	: 1153	†
Tolerance 1/min rack travel mm		†
I dev claser init	. 4.00	FUEL DELIVERY CHARACTERISTICS
rack travel mm		+
Tolerance mm		+ Aneroid pressure
Rated speed rpm	: 1300	+ hPa : -
		+ Rated speed rpm : 600 + Del. quantity
rack travel mm	: 12.50	+ cm3/1000 strokes : 292.0
		+ Tolerance
rack travel mm	: 4.00	+ cm3/1000 strokes : + 2.0 + Check tolerance
rack travel mm	: 0.85	+ cm3/1000s. : +- 5.0
Tolerance mm		Spreed
		+ Tolerance
LOU TOUE		
LOW IDLE		+ Check tolerance + cm3/10 00 8. : 12.0
		1
control lever	70.0	†
position degree tolerance degree		STARTING FUEL DELIVERY
toterance degree	: +- 4.0	T STARTING FUEL DELIVERY
Testing:		Rated speed rpm : 100
		+ Del. quantity
Rated speed rpm		+ cm3/1000 strokes : 280.0 + Tolerance
rack travel mm Tolerance mm	: +- 0.10	+ cm3/1000 strokes : +- 10.0
7000 47700 11111		Check tolerance
rack travel mm		+ cm3/1000s. : +- 14.0
Rated speed rpm Tolerance 1/min		†
TOLETANCE TANK	: ← 30	I
Rated speed rpm	: 100	
ADT1-	. > 40.50	+ LOW IDLE
CRT mm min.	: > 19.50	+ Rated speed rpm : 550
		1 Mateu opeca i pin i 330

Del. quantity		
cm3/1000 strokes	:	19.0
Tolerance		
cm3/1000 strokes	: +-	3.0
Check tolerance		
cm3/1000s.	: +-	6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.04.97 Test oil : ISO 4113

Combination No. : 0 402 678 835

Injection pump

Pump designation : PE8P120A320LS7844 EP type number : 0 412 628 860

Governor

Governer design. : RSV350...1050P0A673

Governer no. : 0 421 833 590

Cust. part No. : 0270746802

Customer-spec. information Customer : MB-NFZ : 0M442LA Motor Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 047

Inlet press. ber : Tolerance bar : + 0.1

Overflow quantity

min. L/h : 140 Tolerance L/h : ← 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar 208.5 Tolerance bar : \leftarrow 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 5.05 : + 0.05 Tolerance mm

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

: - 4- 1

Phasing : 0-45-90-135-180

: -270-315 Tolerance : ← 0.30

Check

tolerance $^{\circ}NW$: + 0.50

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance *NW : **←** 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 15.30 Tolerance mm : \leftarrow 0.05

		+ Aneroid pressure	
Del. quantity		+ hPa	: 1200
cm3/1000 strokes :	272.0	+ Del. quantity	
Tolerance		+ cm3/1000 strokes + Tolerance	: 272.0
cm3/1000 strokes : +	- 1.0	cm3/1000 strokes	: + 1.0
		+ Check tolerance	
Check tolerance cm3/1000s. : +	4.0	+ cm3/1000s. + Spreed	: ← 4.0
CIID7 (0005,	4.0	Tolerance	
Spreed		+ cm3/1000 strokes	: 5.0
Tolerance		+ Check tolerance cm3/1000s.	: 9.0
cm3/1000 strokes :	5.0	+ (1112) 10003.	. 7.0
		+	
Check tolerance cm3/1000s. :	9.0	CONTROL LEVER	
CIID7 (0003,	7.0	T CONTROL LEVER	
		+ control lever	
Rated speed rpm :	350	+ position degree + tolerance degree	
Mateu speed i piii .	<i>3</i> 70	+ toterance degree	. +- 4.0
Rack travel in mm:		+ RATED SPEED	
	- 0.10	+ rack travel mm	
Del. quantity	40.0	+ Rated speed rpm	
cm3/1000 strokes : Tolerance	19.0	† Tolerance 1/min	: +- 5
cm3/1000 strokes : +	- 3.0	rack travel mm	: 4.00
Check tolerance		+ Rated speed rpm	
cm3/1000s. : +	- 6.0	+ Tolerance 1/min	
Spreed		+	
Tolerance	0.0	+ rack travel mm	: 0.85
cm3/1000 strokes : Check tolerance	8.0	+ Tolerance mm	: +- 0.55 : 1400
cm3/1000s. :	12.0	Rated speed rpm	: 1400
		+	
(B) SETTING OF INJECT	TON DUMD	†	
WITH GOVERNOR	TOM FOWE	LOW IDLE	
		+	
		antes lavas	
GUIDE SLEEVE POSITION		<pre>control lever position degree</pre>	• 75.0
GOIDE SEELVE 7 COITION	•	tolerance degree	: +- 4.0
		+	
control lever	_	+ Testing:	
position degree : -	· 3	†	750
Rated speed rpm :	800	+ Rated speed rpm	: 350
Rack travel in mm :	0.50	rack travel mm Tolerance mm	
	- 0.20	T roterance in	. +- 0.10
		+ rack travel mm	: 2.00
governor spring		rack travel mm Rated speed rpm	: 395
pre-tension		+ Tolerance 1/min	: ← 30
click setting x :	3.75	†	400
		Rated speed rpm	: 100
FULL LOAD DELIVERY AT	FULL LOAD STOP	CRT mm min.	: > 19.50
Rated speed rpm :	1050	F SET IDLE AUXILIA	RY SPRING

		+ Tolera	nce
rack travel mm	: 2.00	+ cm3/10	00 strokes : + 1.0
	_		tolerance
TORQUE CONTROL			00s. : +- 4.0
TORGOE CONTROL		+ Spreed + Tolera	
Rated speed rpm	: 1050		00 strokes : 8.0
rack travel mm			ou strokes . O.U
Tolerance mm		1	
Rated speed rpm	: 800	∔ STARTI	NG FUEL DELIVERY
rack travel mm		+	
Tolerance mm	: +- 0.10	+ Rated	speed rpm : 100
			uantity
			00 strokes : 270.0
ANEROID/ALTITUDE		+ Tolera	
COMPENSATOR TEST			00 strokes : +- 15.0
			tolerance
		+ cm3/10	90s. : +- 19.0
SETTING		†	
Pressure hPa	•	†	
Rated speed rpm	500	Ī	
kateu speeu rpii	• 500	T LOW ID	ıs
MEASUREMENT		1 200 10	
		Rated	speed rpm : 350
Pressure hPa	: 400		uantity
rack travel mm	: 1.70		00 strokes : 19.0
Tolerance mm	: + 0.05	+ Tolera	
			00 strokes : + 3.0
Pressure hPa	: 1000		tolerance
rack travel mm	: 6.65	+ cm3/10	00s. : +- 6.0
Tolerance mm	: ← 0.15	+ Spreed	
		+ Tolera	
Start interlock			00 strokes : 8.0
			tolerance
		+ cm3/10	00 S. : 12.0
FUEL DELIVERY CHA	DACTEDISTICS	 †	
TOEL DELIVERY CHA	MACTERIO I I CO	$\overline{f I}$	
Aneroid pressure			
hPa	: 1200	 	
Rated speed rpm		+ End of	test specification sheet
Del. quantity		+	
cm3/1000 strokes	: 274.0	+	
Tolerance		+	
cm3/1000 strokes	: 3.0	+	
Check tolerance		+	
cm3/1000s.	: ← 6.0	†	
Spreed		†	
Tolerance	. 00	†	
cm3/1000 strokes	: 8.0	†	
Check tolerance	. 12.0	T	
cm3/1000S.	: 12.0	Ī	
Aneroid pressure		\mathbf{I}	
hPa	• -	I	
Rated speed rpm	500	\perp	
Del. quantity	. 200	1	
cm3/1000 strokes	: 130.0	1	
J., 1000 DELONGS		ľ	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 29.04.97 Edition Test oil : ISO 4113

Combination No. : 0 402 746 603

Injection pump

Pump designation : PES6P120A320RS7359

EP type number : 0 412 726 925

Governor

Governer design. : RQ300/1050PA999-7

: 0 421 801 799 Governer no.

Cust. part No. : CCEP 5153 66-224

Customer-spec. information

Customer : RENAULT V.I. Motor : MIHRO62045 A41

Power KW : 183.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

: 2 417 413 078 Overflow valve

Inlet press. bar : 2.5 : +- 0.1 Tolerance bar

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.70 : +- 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 20.25 Tolerance mm : + 0.75

Firing order : 1-5-3-6-2-

: 4

: **0-60**-120-180-240 Phasing

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

*NW after s.o.d. : -0.50 Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm: 12.40 : + 0.05 Tolerance mm

BASIC SETTING

	1	Rated speed rpm : 594
Tolerance mm	: + 0.05	guide sleeve travel mm : 5.11
Del. quantity cm3/1000 strokes	: 197.0	Tolerance mm : + 0.10
Tolerance		Rated speed rpm : 720 guide sleeve
cm3/1000 strokes	: + 1.0	travel mm : 6.00 Tolerance mm : + 0.10
Check tolerance cm3/1000s.	: + 4.0	Rated speed rpm : 1380
Spreed	<u> </u>	guide sleeve travel mm : 11.50 Tolerance mm : +- 0.50
Tolerance cm3/1000 strokes	: 5.0	
Check tolerance		GUIDE SLEEVE POSITION
cm3/1000s.	9.0	control lever position degree : 109
Rated speed rpm	: 275	Rated speed rpm : 800 Rack travel in mm : 20.00
	: -6.70 : + 0.10	Tolerance mm : +- 0.80
Del. quantity cm3/1000 strokes Tolerance	: 36.0	FULL LOAD DELIVERY AT FULL LOAD STOP
	: +- 2.0	Rated speed rpm : 600 Aneroid pressure
	: +- 5.0	hPa : 1000 Del. quantity
Tolerance cm3/1000 strokes	: 8.0	cm3/1000 strokes : 197.0 Tolerance
Check tolerance cm3/1000s.	: 12.0	cm3/1000 strokes : + 1.0 Check tolerance
(B) SETTING OF INJ	ECTION DIMD	cm3/1000s. : +- 4.0 Spreed Tolerance
WITH GOVERNOR	ECTION FOMP	cm3/1000 strokes : 5.0 Check tolerance
GUIDE SLEEVE TRAVE	<u> </u>	cm3/1000s. : 9.0
Rated speed rpm	: 1145 +	
guide sleeve	: 6.55	CONTROL LEVER
	÷ + 0.15	control lever position degree : 276.0
guide sleeve	: 275	tolerance degree : +- 4.0
travel mm Tolerance mm	: 1.75 + : +- 0.20 +	RATED SPEED rack travel mm : -1.00
Rated speed rpm :	: 1050	Rated speed rpm : 1130 Tolerance 1/min : + 15
travel mm	: 6.00 : + 0.10	rack travel mm : -8.40 Rated speed rpm : 1260 Tolerance 1/min : +- 5

rack travel mm Tolerance mm Rated speed rpm	: −11.90 : ← 0.50 : 1375
LOW IDLE	
control lever position degree tolerance degree	: 254.0 : ← 4.0
Testing: Rated speed rpm rack travel mm Tolerance mm	: 275 : -6.70 : +- 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 475
Rated speed rpm	: 175
CRT mm min.	: < -4.80
TORQUE CONTROL	
Rated speed rpm Tolerance mm	: 600 : + 0.05
Rated speed rpm Tolerance mm	: 1050 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 1000
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : -1.75 : + 0.20
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 220 : -0.85 : +- 0.15

Pressure hPa rack travel mm Tolerance mm	: 160 : −1.25 : + 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 195
Check speed 1/min Check	: > 80
speed 1/min	: < 215
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	. 1000
hPa Rated speed rpm	: 1000 : 1050
Del. quantity cm3/1000 strokes	: 198.0
Tolerance cm3/1000 strokes	: +- 3.0
Check tolerance cm3/1000s.	: + 6.0
Aneroid pressure	
hPa Rated speed rpm	500
Del. quantity cm3/1000 strokes	: 153.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000S.	: +- 4.0
STARTING FUEL DEL	IVERY
Rated speed rpm Del. quantity	: 100
cm3/1000 strokes	: 150.0
cm3/1000 strokes Check tolerance	: +- 15.0
cm3/1000s.	: +- 19.0
LOW IDLE	

Rated speed rpm : 275
Del. quantity
cm3/1000 strokes : 36.0
Tolerance
cm3/1000 strokes : + 2.0

Check tolerance cm3/1000S. : + 5.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

12.0 cm3/1000S.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.04.97 Test oil : ISO 4113

Combination No. : 0 402 746 606

Injection pump

Pump designation : PES6P110A720RS7406

EP type number : 0 412 716 810

Governor

Governer design. : RQV300...1050PA1090

: 1K

Governer no. : 0 421 815 497

Cust. part No. : 9279607

Customer-spec. information Customer : LIEBHERR Motor : D 926 TI-E Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance *C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : Tolerance bar : + 0.1

Overflow quantity

min. L/h 125 min. l/h : 125 Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar **:** + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar :+- 1.0

: 3.65 : + 0.05 Prestroke mm Tolerance mm Check

tolerance mm : **←** 0.10

Rack travel in mm : 10.00 : +- 1.00 Tolerance mm

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

Tolerance : +- 0.30

Check

tolerance *NW : + 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.80 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 205.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.	: +- 4.0	†
Spreed		+ GUIDE SLEEVE POSITION
Tolonopo		+
Tolerance cm3/1000 strokes	: 5.0	control lever position degree : - 1 Rated speed rpm : 1180
Check tolerance cm3/1000s.	: 9.0	Rack travel in mm : 12.80 Tolerance mm : +- 2.00
Rated speed rpm	: 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in m Tolerance mm Del. quantity cm3/1000 strokes	: + 0.10	Rated speed rpm : 1050 Aneroid pressure hPa : 1600
Tolerance cm3/1000 strokes		+ Del. quantity + cm3/1000 strokes : 205.0 + Tolerance
Check tolerance cm3/1000s.		cm3/1000 strokes : + 1.0
Spreed Tolerance		+ cm3/1000s. : +- 4.0 + Spreed
cm3/1000 strokes Check tolerance		Tolerance cm3/1000 strokes : 5.0
cm3/1000s.	: 10.0	+ Check tolerance + cm3/1000s. : 9.0
(B) SETTING OF I WITH GOVERNOR	NJECTION PUMP	CONTROL LEVER
GUIDE SLEEVE TRA	VEL	control lever position degree : 116.0
Rated speed rpm guide sleeve	: 1117	tolerance degree : +- 4.0
travel mm Tolerance mm	: 10.27 ; 0.15	RATED SPEED rack travel mm: : 12.80 Rated speed rpm : 1090
Rated speed rpm guida sceeve		+ Tolerance 1/min : +- 5
trivel min Tolerance mm	: 1.86 : +- 0.20	+ rack travel mm : 4.00 + Rated speed rpm : 1195 + Tolerance 1/min : + 15
Rated speed rpm guide sleeve		rack travel mm : 0.50 Tolerance mm : + 0.50
travel mm Tolerance mm	: 6.17 : +- 0.25	Tolerance mm : + 0.50 Rated speed rpm : 1300
Rated speed rpm guide sleeve	: 480	<u> </u>
travel mm Tolerance mm	: 3.75 : + 0.25	LOW IDLE
Rated speed rpm guide sleeve travel mm	: 1330 : 13.50	control lever position degree : 71.0
Tolerance mm		tolerance degree : +- 4.0

Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.20 : ← 0.10
Rated speed rpm	: 250
CRT mm min.	: > 7.40
Rated speed rpm	: 420
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 13.80 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 10.90 : ← 0.15
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel nam Tolerance mm	
Rated speed rpm rack travel mm Tolerarise mm	: 600 : 11.45 : → 0.15
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel num Tolerance mm	: 1050 : 1600 : 13.80 : ← 0.05
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 1050 : 10.55 : ← 0.15
MEASUREMENT	
Rated speed rpm	: 1050
Pressure hPa rack travel mm Tolerance mm	: 940 : 13.00 : +- 0.05

Pressure hPa rack travel mm Tolerance mm	: 670 : 11.50 : + 0.10
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
hPa	: 1600 : 500
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes	: 194.0
Tolerance cm3/1000 strokes	: + 3.0
Check tolerance	5.0
cm3/1000s.	: + 6.0
Aneroid pressure	
hPa	: 1600
Rated speed rpm Del. quantity	: 800
cm3/1000 strokes	: 201.0
Tolerance cm3/1000 strokes	: +- 3.0
Check tolerance	5.0
cm3/1000s.	: + 6.0
Aneroid pressure	
hPa	; – 500
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes	: 184.0
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance	
cm3/1000s.	: +
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
rack travel mm	: 10.60
Tolerance mm	: ← 0.20
Del. quantity cm3/1000 strokes	: 175.0
Tolerance	
cm3/1000 strokes Check tolerance	: +- 10.0
cm3/1000s.	: +- 14.0
LOW IDLE	

Rated speed rpm Del. quantity	:	350	
cm3/1000 strokes Tolerance	:	25.0	
cm3/1009 strokes	: +-	3.0	
Check tolerance cm3/1000s.	: +-	6.0	
Spreed Tolerance			
cm3/1000 strokes Check tolerance	:	6.0	
cm3/1000s.	:	10.0	

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 29.04.97 Test oil : ISO 4113

Combination No. : 0 402 746 606A

Injection pump

Pump designation : PES6P110A720RS7406

EP type number : 0 412 716 810

Governor

Governer design. : RQV300...1050PA1090

: 1K

: 0 421 815 497 Governer no.

Cust. part No. : 9279607

Customer-spec. information Customer : LIEBHERR Motor : D 926 TI-E

: 230.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40 : ← 2.0 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : Tolerance bar : + 0.1

Overflow quantity
min. L/h : 125
Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar : + 1.5 Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 3.65 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.00 Tolerance mm : + 1.00

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

Tolerance : +- 0.30

Check

tolerance *NW : +- 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 13.80

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 205.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance cm3/1000S. : ← 4.0	CUITE CLEENE DOCUTION
Spreed	+ GUIDE SLEEVE POSITION
Tolerance cm3/1000 strokes : 5.0	control lever position degree : - 1 Rated speed rpm : 1180
Check tolerance cm3/1000S. : 9.0	Rack travel in mm : 12.80 Tolerance mm : + 2.00
Rated speed rpm : 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: 5.20 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 25.0 Tolerance cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000 strokes: 10.0 Check tolerance cm3/1000s. : 10.0	Rated speed rpm : 1050 Aneroid pressure hPa : 1600 Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1090s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0
GUIDE SLEEVE TRAVEL	control lever
Rated speed rpm : 1102 guide sleeve travel mm : 10.05 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 1.86 Tolerance mm : + 0.20	position degree : 116.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 12.80 Rated speed rpm : 1090 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : +- 15
Rated speed rpm : 749 guide sleeve travel mm : 6.11 Tolerance mm : + 0.25	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1300
Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : +- 0.25	LOW IDLE
Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50	control lever position degree : 71.0 tolerance degree : +- 4.0

Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.20 : + 0.10
Rated speed rpm	: 250
CRT mm min.	: > 7.40
Rated speed rpm	: 420
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 13.80 : +- 0.65
Rated speed rpm rack travel mm Tolerance mm	: 500 : 10.90 : + 0.15
Rated speed rpm rack travel mm Tolerance mm	: 800 : 12.70 : +- 0.15
Rated speed rpm rack travel min Tolerance mm	: 950 : 13.35 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 600 : 11.45 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm	: 1050 : 1600 : 13.80 : + 0.05

SETTING	
Rated speed rpm Pressure hPa rack travel min Tolerance mm	: 1050 : 1600 : 13.80 : + 0.05
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 1050 : 10.55 : ← 0.10
MEASUREMENT	
Rated speed rom	:- 1050

: 940 : 13.00 : + 0.05

Pressure hPa rack travel mm Tolerance mm	: 670 : 11.50 : + 0.10
Start interlock	
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1600 : 500 : 194.0 : + 3.0
Check tolerance cm3/1000s.	: ← 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1600 : 800 : 201.0 : + 3.0 : + 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
STARTING FUEL DEL	IVERY
	. 400

:		100
:		10.60
:	+-	0.20
:		175.0
:	+-	10.0
:	+	14.0
	:	: +-

Pressure hPa rack travel mm

Tolerance mm

LOW IDLE

Rated speed rpm : 350

Del. quantity
cm3/1000 strokes : 25.0

Tolerance
cm3/1000 strokes : + 3.0

Check tolerance
cm3/1000s. : + 6.0

Spreed

Tolerance
cm3/1000 strokes : 6.0

Check tolerance
cm3/1000 strokes : 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 29.04.97 : ISO 4113

Combination No. : 0 402 746 640

Injection pump

Pump designation : PES6P120A320RS7359

EP type number : 0 412 726 925

Governor

Governer design. : RQV300...1050PA1191

Governer no. : 0 421 814 114

Cust. part No. : CCEP 5147C 66-223

Customer-spec, information

: RENAULT V.I. Customer

: MIDR 06.20.45 C4 Motor

Power KW : 188.0

TEST BENCH REQUIREMENTS

inlet line : 3.1

Test oil inlet

temp. °C 40

Tolerance *C 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0 x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

: 4.70 Prestroke mm : + - 0.50Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 20.25 Tolerance mm : \leftarrow 0.75

: 1-5- 3- 6- 2-Firing order

Phasing : **0-60-120-180**-240

Tolerance : +- 0.30

Check

tolerance $^{\circ}NW$: +- 0.50

Start of delivery mark

*NW after s.o.d. : -0.95 Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

: 1 Barrel no.

CRT ZERO POSITION

Rack travel in mm: 12.70 Tolerance mm : \leftarrow 0.05

BASIC SETTING

	+ guide sleeve
Del. quantity	+ travel mm : 2.40
cm3/1000 strokes : 199.0	+ Tolerance mm : +- 0.25
(110) 1000 311 01(03 1 1 1) 10	I Total alloc limit
Tolerance	Rated speed rpm : 415
$cm3/1000$ strokes : \leftarrow 1.0	+ guide sleeve
	+ travel mm : 3.28
Check tolerance	+ Tolerance mm : + 0.25
cm3/1000s. : +- 4.0	+
<u> </u>	+ Rated speed rpm : 460
Spreed	+ guide sleeve
1,100	+ travel mm : 3.86
Tolerance	+ Tolerance mm : + 0.25
cm3/1000 strokes : 5.0	Total arise min
CHO/1000 Strokes . J.O	T Botad aread arm . 1/40
	+ Rated speed rpm : 1460
Check tolerance	+ guide sleeve
cm3/1000s. : 9.0	+ travel mm : 11.50
	+ Tolerance mm : +- 0.50
	+
Rated speed rpm : 300	+ GUIDE SLEEVE POSITION
matta opeca i pin	
Rack travel in mm: -7.20	
	T and all laves
Toterance mm : + 0.10	+ sontrol lever
Del. quantity	+ position degree : - 1
cm3/1000 strokes : 31.0	+ Rated speed rpm : 1230
Tolerance	+
cm3/1000 strokes : +- 2.0	+ Rack travel in mm : 11.70
Check tolerance	+ Tolerance mm : +- 2.00
cm3/1000s. : +- 5.0	1
Spreed	
	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	T FOLL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 8.0	———
Check tolerance	+ Rated speed rpm : 700
cm3/1 000 8. : 12.0	+ Android pressure
	+ hPa : 1000
	→ Del. quantity
(B) SETTING OF INJECTION PUMP	+ cm3/1000 strokes : 199.0
WITH GOVERNOR	+ Tolerance
WITH GOVERNON	+ cm3/1000 strokes : +- 1.0
	Check tolerance
direct di print Thaire	
GUIDE SLEEVE TRAVEL	+ cm3/1000s. : +- 4.0
	+ Spreed
Rated speed rpm : 1140	+ Tolerance
guide sleeve	+ cm3/1000 strokes : 5.0
travel ma : 8.49	+ Check tolerance
Tolerance mm : + 0.25	+ cm3/1000s. : 9.0
Rated speed rpm : 300	1
guide sleeve	
guide Steeve	CONTROL I FUED
travel mm : 1.33	+ CONTROL LEVER
Tolerance mm : + 0.25	†
	+ control lever
Rated speed rpm : 754	+ position degree : 302.0
guide sleeve	+ tolerance degree : + 4.0
travel mm : 6.10	1
Tolerance mm : +- 0.25	RATED SPEED
10501 di 100 (mil) 1 - 0102	rack travel mm : -1.00
Datus areas are 1 745	
Rated speed rpm : 365	+ Rated speed rpm : 1150
	+ Tolerance 1/min : +- 5

rack travel mm -8.70 Rated speed rpm 1305 Tolerance 1/min **:** +- 15 rack travel mm -12.20Tolerance mm : +- 0.50 Rated speed rpm 1400 LOW IDLE control lever position degree : 266.0 tolerance degree : +- 4.0 Testing: Rated speed rpm 300 rack travel mm -7.20Tolerance mm : +- 0.10 200 Rated speed rpm CRT mm max. : < -4.80 Rated speed rpm 370 TORQUE CONTROL 700 Rated speed rom 1050 Rated speed rpm Tolerance mm : +- 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm 500 Pressure hPa 1000 Pressure hPa Rated speed rpm 500 rack travel mm -1.20Tolerance mm : +- 0.20 **MEASUREMENT** 500 Rated speed rpm

140

-0.80

Tolerance mm : +- 0.15 Pressure hPa 200 rack travel mm -0.35Tolerance mm : + - 0.05Start interlock Rated speed rpm : > 100 Rated speed rpm : < 220 Check speed 1/min : > 80 Check speed 1/min 240 : < FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 1000 Rated speed rpm 1050 Del. quantity cm3/1000 strokes : 201.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s.6.0 Aneroid pressure hPa Rated speed rpm 500 Del. quantity cm3/1000 strokes : 165.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s.: +-4.0 STARTING FUEL DELIVERY Rated speed rpm 100 Del. quantity cm3/1000 strokes : 150.0 Tolerance cm3/1000 strokes : + 15.0Check tolerance cm3/1000s.: +- 19.0 LOW IDLE Rated speed rpm 300

Del. quantity

cm3/1000 strokes :

31.0

Pressure hPa

rack travel mm

Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.04.97 Test oil : ISO 4113

Combination No. : 0 402 746 645

Injection pump

Pump designation : PES6P120A320RS7364 EP type number : 0 412 726 930

Governor

Governer design. : RQV300...1050PA1204

Governer no. : 0 421 814 123

Cust. part No. : CCEP 5148A 66-236

Customer-spec. information

Customer : RENAULT V.I. : MIDR 06.20.45041 Motor

Power KW : 219.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : → 1.0

Prestroke mm : 4.55 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 20.25 Tolerance mm : + 0.75

Firing order : 1-5- 3- 6- 2-

Phasing : 0-60-120-180-240Tolerance : $\div 0.30$

Check

tolerance $^{\circ}NW$: + 0.50

Start of delivery mark

*NW after s.o.d. : -0.40

Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: +- 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm: 13.90 Tolerance mm : \leftarrow 0.05

BASIC SETTING

	1 -	wide alenda
No.		uide sleeve
Del. quantity cm3/1000 strokes : 29		ravel mm : 2.40 olerance mm : + 0.25
	+	
Tolerance		ated speed rpm : 415
cm3/1000 strokes : +-		uide sleeve
		ravel mm : 3.28
Check tolerance		olerance mm : + 0.25
cm3/1000s. : +	4.0	
		ated speed rpm : 460
Spreed		uide sleeve
		ravel mm : 3.86
Tolerance		olerance mm : + 0.25
cm3/1000 strokes :	5.0 +	
		ated speed rpm : 1460
Check tolerance		uide sleeve
cm3/1000s. :		ravel mm : 11.50
-	 	folerance ma : +- 0.50
	+	
Dated aread === : 30	h -	HIDE CLEENE POCTION
Rated speed rpm : 30	1 9	UIDE SLEEVE POSITION
Rack travel in mm : -7	7.60 Ī	
Tolerance mn : + 0		ontrol lever
Del. quantity	- "	osition degree : - 1
		eated speed rpm : 1230
Tolerance	I "	ated speed i pili . 1230
	2.0 + R	ack travel in mm : 11.70
Check tolerance	·	olerance mm : +- 1.30
	5.0	
Spreed	1 -	
Tolerance	↓ F	ULL LOAD DELIVERY AT FULL LOAD STOP
	8.0	
Check tolerance	- <u> </u> - R	lated speed rpm : 600
CUCCU COLCI CI ISC	20 1 4	• •
	2.0 + A	neroid pressure
		neroid pressure Pa : 1000
	+ h	Pa : 1000 el. quantity
	+ h	Pa : 1000
cm3/1000s. : 1	PUMP + C	Pa : 1000 el. quantity m3/1000 strokes : 290.0 olerance
cm3/1000s. : 1 (B) SETTING OF INJECTION	PUMP + C	Pa : 1000 el. quantity m3/1000 strokes : 290.0 olerance m3/1000 strokes : +- 1.0
cm3/1000s. : 1 (B) SETTING OF INJECTION	PUMP C	Pa : 1000 el. quantity m3/1000 strokes : 290.0 olerance m3/1000 strokes : +- 1.0 heck tolerance
cm3/1000s. : 1 (B) SETTING OF INJECTION	PUMP C T C C C	Pa : 1000 el. quantity m3/1000 strokes : 290.0 olerance m3/1000 strokes : +- 1.0 heck tolerance m3/1000s. : +- 4.0
cm3/1000s. : 1 (B) SETTING OF INJECTION WITH GOVERNOR GUIDE SLEEVE TRAVEL	PUMP + C	Pa : 1000 el. quantity m3/1000 strokes : 290.0 olerance m3/1000 strokes : + 1.0 heck tolerance m3/1000s. : + 4.0 preed
cm3/1000s. : 1 (B) SETTING OF INJECTION WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 113	PUMP C T C C C S T	#Pa : 1000 rel. quantity m3/1000 strokes : 290.0 rel.quantity m3/1000 strokes : + 1.0 reck tolerance m3/1000s. : + 4.0 reed recolorance
cm3/1000s. : 1 (B) SETTING OF INJECTION WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 113 guide sleeve	PUMP	Pa : 1000 el. quantity m3/1000 strokes : 290.0 olerance m3/1000 strokes : + 1.0 heck tolerance m3/1000s. : + 4.0 preed olerance m3/1000 strokes : 5.0
cm3/1000s. : 1 (B) SETTING OF INJECTION WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 113 guide sleeve travel mm : 8	PUMP	#Pa : 1000 rel. quantity m3/1000 strokes : 290.0 olerance m3/1000 strokes : + 1.0 heck tolerance m3/1000s. : + 4.0 preed olerance m3/1000 strokes : 5.0 heck tolerance
cm3/1000s. : 1 (B) SETTING OF INJECTION WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 113 guide sleeve	PUMP	Pa : 1000 el. quantity m3/1000 strokes : 290.0 olerance m3/1000 strokes : + 1.0 heck tolerance m3/1000s. : + 4.0 preed olerance m3/1000 strokes : 5.0
Cm3/1000S. : 1 (B) SETTING OF INJECTION WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 113 guide sleeve travel mm : 8 Tolerance mm : + 0	PUMP	#Pa : 1000 rel. quantity m3/1000 strokes : 290.0 olerance m3/1000 strokes : + 1.0 heck tolerance m3/1000s. : + 4.0 preed olerance m3/1000 strokes : 5.0 heck tolerance
Cm3/1000s. : 1 (B) SETTING OF INJECTION WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 113 guide sleeve travel mm : 8 Tolerance mm : + 0 Rated speed rpm : 30	PUMP	#Pa : 1000 rel. quantity m3/1000 strokes : 290.0 olerance m3/1000 strokes : + 1.0 heck tolerance m3/1000s. : + 4.0 preed olerance m3/1000 strokes : 5.0 heck tolerance
Cm3/1000s. : 1 (B) SETTING OF INJECTION WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 113 guide sleeve travel mm : 8 Tolerance mm : + 0 Rated speed rpm : 30 guide sleeve	PUMP	### ### ### ### ### ### ### ### #### ####
Cm3/1000S. : 1 (B) SETTING OF INJECTION WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 113 guide sleeve travel mm : 8 Tolerance mm : +- 0 Rated speed rpm : 30 guide sleeve travel mm : 1	PUMP	#Pa : 1000 rel. quantity m3/1000 strokes : 290.0 olerance m3/1000 strokes : + 1.0 heck tolerance m3/1000s. : + 4.0 preed olerance m3/1000 strokes : 5.0 heck tolerance
Cm3/1000S. : 1 (B) SETTING OF INJECTION WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 113 guide sleeve travel mm : 8 Tolerance mm : +- 0 Rated speed rpm : 30 guide sleeve travel mm : 1	PUMP	#Pa : 1000 #el. quantity m3/1000 strokes : 290.0 #olerance #i3/1000 strokes : + 1.0 #heck tolerance m3/1000s. : + 4.0 #preed #olerance #i3/1000 strokes : 5.0 #heck tolerance #i3/1000s. : 9.0 #ONTROL LEVER
Cm3/1000S. : 1 (B) SETTING OF INJECTION WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 113 guide sleeve travel mm : 8 Tolerance mm : + 0 Rated speed rpm : 30 guide sleeve travel mm : 1 Tolerance mm : + 0	PUMP	#Pa : 1000 #Pa : 1000 #Pa : 290.0 #Pa : 2
Cm3/1000S. : 1 (B) SETTING OF INJECTION WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 113 guide sleeve travel mm : 8 Tolerance mm : + 0 Rated speed rpm : 30 guide sleeve travel mm : 1 Tolerance mm : + 0 Rated speed rpm : 75	PUMP	#Pa : 1000 #Pa : 1000 #Pa : 290.0 #Pa : 2
Cm3/1000S. : 1 (B) SETTING OF INJECTION WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 113 guide sleeve travel mm : 8 Tolerance mm : + 0 Rated speed rpm : 30 guide sleeve travel mm : 1 Tolerance mm : + 0 Rated speed rpm : 75 guide sleeve	PUMP	#Pa : 1000 #Pa : 1000 #Pa : 290.0 #Pa : 2
Cm3/1000S. : 1 (B) SETTING OF INJECTION WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 113 guide sleeve travel mm : 8 Tolerance mm : + 0 Rated speed rpm : 30 guide sleeve travel mm : 1 Tolerance mm : + 0 Rated speed rpm : 75 guide sleeve travel mm : 75 guide sleeve travel mm : 6	PUMP	#Pa : 1000 rel. quantity m3/1000 strokes : 290.0 olerance m3/1000 strokes : + 1.0 heck tolerance m3/1000s. : + 4.0 preed olerance m3/1000 strokes : 5.0 rheck tolerance m3/1000s. : 9.0 ONTROL LEVER ontrol lever osition degree : 303.0 olerance degree : + 4.0
Cm3/1000S. : 1 (B) SETTING OF INJECTION WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 113 guide sleeve travel mm : 8 Tolerance mm : + 0 Rated speed rpm : 30 guide sleeve travel mm : 1 Tolerance mm : + 0 Rated speed rpm : 75 guide sleeve	PUMP	#Pa : 1000 rel. quantity m3/1000 strokes : 290.0 olerance m3/1000 strokes : + 1.0 heck tolerance m3/1000s. : + 4.0 preed olerance m3/1000 strokes : 5.0 rheck tolerance m3/1000s. : 9.0 ONTROL LEVER ontrol lever osition degree : 303.0 olerance degree : + 4.0
Cm3/1000S. : 1 (B) SETTING OF INJECTION WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 113 guide sleeve travel mm : 8 Tolerance mm : + 0 Rated speed rpm : 30 guide sleeve travel mm : 1 Tolerance mm : + 0 Rated speed rpm : 75 guide sleeve travel mm : 6 Tolerance mm : + 0	PUMP	#Pa : 1000 #Pa : 1000 #Pa : 290.0 #Pa : 2
Cm3/1000S. : 1 (B) SETTING OF INJECTION WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 113 guide sleeve travel mm : 8 Tolerance mm : + 0 Rated speed rpm : 30 guide sleeve travel mm : 1 Tolerance mm : + 0 Rated speed rpm : 75 guide sleeve travel mm : 75 guide sleeve travel mm : 6	PUMP	#Pa : 1000 rel. quantity m3/1000 strokes : 290.0 olerance m3/1000 strokes : + 1.0 heck tolerance m3/1000s. : + 4.0 preed olerance m3/1000 strokes : 5.0 rheck tolerance m3/1000s. : 9.0 ONTROL LEVER ontrol lever osition degree : 303.0 olerance degree : + 4.0

rack travel mm -9.90Rated speed rpm : 1305 : +- 15 Tolerance 1/min

rack travel mm : -13.40 Tolerance mm : + 0.50: 1400 Rated speed rpm

LOW IDLE

control lever position degree : 267.0 tolerance degree : - 4.0

Testing:

300 Rated speed rpm rack travel mm -7.60: + 0.10Tolerance nam

Rated speed rpm : 200

CRT mm max. : < -5.10

360 Rated speed rpm :

TORQUE CONTROL

600 Rated speed rpm :

: 1050 Rated speed rpm Tolerance mm : **←** 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm 500 1000 Pressure hPa

Pressure hPa 500 Rated speed rpm -2.50rack travel mm : + - 0.20Tolerance mm

MEASUREMENT

500 Rated speed rpm

240 Pressure hPa -1.45rack travel mm

Tolerance mm : +- 0.15

400 Pressure hPa -0.50rack travel mm : ÷- 0.05 Tolerance mm

Start interlock

Rated speed rpm : > 100 : < Rated speed rpm 230

Check

speed 1/min : > 80 Check speed 1/min : < 250

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1000 hPa Rated speed rpm : 1050 Del. quantity

cm3/1000 strokes : 298.0

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s.: + 6.0

Aneroid pressure

Rated speed rpm 500 Del. quantity

cm3/1000 strokes: 167.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. 4.0

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 20.25 Tolerance mm : + 0.75

Del. quantity

cm3/1000 strokes : 145.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

cm3/1000s. : + 19.0

LOW IDLE

Del. quantity cm3/1000 strokes	:	26.0
Tolerance cm3/1000 strokes	: +-	2.0
Check tolerance cm3/1000s.	: +-	5.0
Spreed Tolerance		
cm3/1000 strokes Check tolerance	:	8.0
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29,04,97 Test oil : ISO 4113

Combination No. : 8 402 746 649

Injection pump

Pump designation : PES6P120A320RS7359

EP type number : 0 412 726 925

Governor

Governer design. : RQ275/1050PA1217 Governer no. : 0 421 801 782

Cust. part No. : CCEP5150A 66

Customer-spec. information

Customer : RENAULT V.I. : MIDRO62045 I-841 flotor

Power KW : 185.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

: 2 417 413 078 Overflow valve

Inlet press. bar : Tolerance bar : +- 0.1

Overflow quantity

min. L/h : 320 Toterance L/h : + 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

: 600 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : \leftarrow 1.0

4.70 Prestroke mm Tolerance mm : +- 0.05

Check

tolerance mm : + - 0.10

Rack travel in mm: 20.25 Tolerance mm : \leftarrow 0.75

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: +- 0.30 Tolerance

Check

tolerance *NW : +- 0.50

Start of delivery mark

*NW after s.o.d. : -1.45 : + 0.50Tolerance

Check

: +- 0.75 tolerance 'NW

: 1 Barrel no.

CRT ZERO POSITION

Rack travel in mm: 12.50

		+ guide sleeve
		
BASIC SETTING		Tolerance mm : +- 0.10
Rated speed rpm	: 600	Rated speed rpm : 391 guide sleeve
Del. quantity		+ travel mm : 4.37
cm3/1000 strokes	: 193.0	Tolerance mm : +- 0.10
Tolerance		Rated speed rpm : 490
cm3/1000 strokes	: + 1.0	
CIID/ 1000 Strokes	: +- 1.0	+ guide steeve
Observation and a servation of		+ travel mm : 6.00
Check tolerance		+ Tolerance mm : +- 0.10
cm3/1000s.	: +- 4.0	†
		Rated speed rpm : 1340
Spreed		+ guide steeve
		† travel mm : 11.50
Tolerance		+ Tolerance mm : + 0.50
cm3/1000 strokes	: 5.0	
the root serokes	. 5.0	
Check tolerance		GUIDE SLEEVE POSITION
cm3/1000s.	. 00	T GOIDE SLEEVE POSITION
CM37 10005.	: 9.0	†
		
		+ control lever
		† position degree : 109
Rated speed rpm	: 275	+ Rated speed rpm : 600
		+
Rack travel in m	t: -6 .80	Rack travel in mm: 20.00
Tolerance mm		+ Tolerance mm : +- 0.80
Del. quantity		1000 1100 1110
		· · · · · · · · · · · · · · · · · · ·
rm3/1000 strokes	· 31 በ	
cm3/1000 strokes	: 31.0	FULL LOAD DELIVEDY AT FULL LOAD STOP
Tolerance	-	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance cm3/1000 strokes	-	+
Tolerance cm3/1000 strokes Check tolerance	: +- 2.0	Rated speed rpm : 600
Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	-	Rated speed rpm : 600 Aneroid pressure
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: +- 2.0	Rated speed rpm : 600 Aneroid pressure hPa : 1000
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: +- 2.0 : +- 5.0	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: +- 2.0 : +- 5.0	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: +- 2.0 : +- 5.0	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: +- 2.0 : +- 5.0	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: +- 2.0 : +- 5.0 : 8.0	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : +- 1.0
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: +- 2.0 : +- 5.0 : 8.0	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 2.0 : + 5.0 : 8.0 : 12.0	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN	: + 2.0 : + 5.0 : 8.0 : 12.0	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 2.0 : + 5.0 : 8.0 : 12.0	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN	: + 2.0 : + 5.0 : 8.0 : 12.0	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR	: +- 2.0 : +- 5.0 : 8.0 : 12.0	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN	: +- 2.0 : +- 5.0 : 8.0 : 12.0	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAN	: +- 2.0 : +- 5.0 : 8.0 : 12.0 NJECTION PUMP	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAN Rated speed rpm	: +- 2.0 : +- 5.0 : 8.0 : 12.0 NJECTION PUMP	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAN Rated speed rpm guide sleeve	: +- 2.0 : +- 5.0 : 8.0 : 12.0 NJECTION PUMP	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm	: +- 2.0 : +- 5.0 : 8.0 : 12.0 NJECTION PUMP /EL : 1137 : 6.37	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAN Rated speed rpm guide sleeve	: +- 2.0 : +- 5.0 : 8.0 : 12.0 NJECTION PUMP	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm	: + 2.0 : + 5.0 : 8.0 : 12.0 NJECTION PUMP /EL : 1137 : 6.37 : + 0.10	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm	: + 2.0 : + 5.0 : 8.0 : 12.0 NJECTION PUMP /EL : 1137 : 6.37 : + 0.10	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm	: + 2.0 : + 5.0 : 8.0 : 12.0 NJECTION PUMP /EL : 1137 : 6.37 : + 0.10 : 275	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: + 2.0 : + 5.0 : 8.0 : 12.0 NJECTION PUMP /EL : 1137 : 6.37 : + 0.10	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 275.0
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: + 2.0 : + 5.0 : 8.0 : 12.0 NJECTION PUMP /EL : 1137 : 6.37 : + 0.10 : 275	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever position degree : 275.0 tolerance degree : +- 4.0
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: +- 2.0 : +- 5.0 : 8.0 : 12.0 NJECTION PUMP /EL : 1137 : 6.37 : +- 0.10 : 275 : 1.37	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever position degree : 275.0 tolerance degree : +- 4.0 RATED SPEED
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: + 2.0 : + 5.0 : 8.0 : 12.0 NJECTION PUMP /EL : 1137 : + 6.37 : + 0.10 : 275 : 1.37 : + 0.10	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 275.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : -1.00
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: + 2.0 : + 5.0 : 8.0 : 12.0 NJECTION PUMP /EL : 1137 : + 6.37 : + 0.10 : 275 : 1.37 : + 0.10	Rated speed rpm : 600 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 193.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever position degree : 275.0 tolerance degree : +- 4.0 RATED SPEED

rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm	: - 0.50
LOW IDLE	· · · · · · · · · · · · · · · · · · ·
control lever position degree tolerance degree	: 252.0 : ← 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : −6.80 : ← 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: -10.40 : 375 : +- 20
Rated speed rpm	200
CRT mm min.	: < -5.70
TORQUE CONTROL	
Rated speed rpm	: 600
Rated speed rpm Tolerance mm	: 1050 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 1000
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : -2.00 : +- 0.20
MEASUREMENT	

5**0**0

320 -0.85 + 0.15 160 -1.70 + 0.05 > 100 < 195 > 80 < 215 ACTERISTICS
-1.70 +- 0.05 > 100 < 195 > 80 < 215 ACTERISTICS
< 195 > 80 < 215 ACTERISTICS 1000 1050
< 195 > 80 < 215 ACTERISTICS 1000 1050
CTERISTICS 1000 1050
ACTERISTICS 1000 1050
1000 1050
+ 3.0
100 0
+ 6.0
-
500
147.0
+- 1.0
+- 4.0

Rated speed rpm	:	100
Del. quantity cm3/1000 strokes	:	150.0
Tolerance cm3/1000 strokes	: +	- 15.0
Check tolerance cm3/1000s.	: +	- 19.0

LOW IDLE

Rated speed rpm : 275

Rated speed rpm

Del. quantity		
cm3/1000 strokes	:	31.0
Tolerance		
cm3/1000 strokes	: +-	2.0
Check tolerance		
cm3/1000s.	: +-	5.0
Spreed		
Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 25.04.97

Test oil

: ISO 4113

Combination No. : 0 402 890 301

Injection pump

Pump designation : PE12P12OA52OLS8525

EP type number

: 0 412 820 203

Governor

Governer design. : RE30

Governer no.

: 0 421 890 040

Cust. part No.

: 51.11103-7552

Customer-spec. information

Customer

: MAN

Motor

: D 2842 LE 404

Power KW

: 956.0

TEST BENCH REQUIREMENTS

Inlet line

: EHAB

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve

: 2 417 413 089

Inlet press. bar :

3.0

Tolerance bar

: +-0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

208.5

Tolerance bar

Test Lines

: 1 680 750 089

Outside diameter :

8.0

K04

x inside diameter : 3.0

x length mm

600

REMARKS

Pump-specific values

in Section (B)

must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar :

Tolerance bar : +- 1.0

5.20 Prestroke mm

Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 13.00

Tolerance mm : **←** 0.50

: 1A- 5-9A- 8- 3A- 4 Firing order

: 11A- 10- 2A- 6 7A

: 12 (A=Abschaltelem

: ent)

: 0-15-60-75-120-135 Phasing

: 180-195-240-255-300

: 315

Tolerance : +- 0.50

Check

tolerance *NW : + - 0.75

Start of delivery blocking

: **←** 0.10 Tolerance

Check

tolerance *NW : **←** 0.75

Barrel no.

: 12

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 VTESTING & SETTING RACK TRAVEL SENSOR POSITION Engine speed min-1: Setting point (P, R and H pump) Uact V 3.100 CRT mm 13.00 Tolerance ma : +/- 0.05 Check tolerance mm : +/- 0.10 Check value (P, R and H pump) Uact V 1,700 CRT mm 6.15 : +/- 0.25 Tolerance mm Check : +/- 0.30 tolerance mm Setting point (M punip) 3.100 Uact V 12.50 CRT mm Tolerance mm : +/- 0.05 Check : +/- 0.10 tolerance mm Check value (m pump) 1.700 Uact V 5.50 CRT mm Tolerance mm : +/- 0.25 Check : +/- 0.30 tolerance mm Stop position Uact V : Value with deenergised adjusting magnet and control rod in stop position. 0.75 CRT mm Tolerance mm : +/- 0.25 Check : +/- 0.35 tolerance mm

ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps)

Test with control rod in stop position

Engine speed min-1: 60 Amplitude V 1.4 Tolerance V : +/- 0.6 Check

tolerance V

: +/- 1.20

Engine speed min-1: 600

Difference Amplitude to

Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

cm3/1000s.

1150 Rated speed rpm Uact V 3.360 Del. quantity cm3/1000 strokes : 332.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 4.0 Spreed Tolerance cm3/1000 strokes 8.0 Check tolerance

FUEL DELIVERY CHARACTERISTICS

12.0

Rated speed rpm 500 Uact V 2.220 Del. quantity cm3/1000 strokes : 180.0 Tolerance cm3/1000 strokes : +-5.0 Check tolerance cm3/1000s.9.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Rated speed rpm 500 Uact V 1.940 Del. quantity cm3/1000 strokes : 0.1

Tolerance cm3/1000 strokes	: +- 0.1
Check tolerance	
cm3/1000s.	: ← 0.1
Rated speed rpm	: 500
Uact V	: 2.160
Del. quantity	4.5.5
cm3/1000 strokes Tolerance	: 165.0
cm3/1000 strokes	: ← 15.0
Check tolerance	
cm3/1000s.	: ← 15.0
TEST POINT L1	
Doted cheed nom	: 300
Rated speed rpm	
Uact V	: 1.600
Uact V Tolerance Volt Check tolerance Volt	: 1.600
Uact V Tolerance Volt Check tolerance Volt Del. quantity	: 1.600 : +- 0.060 : +- 0.080
Uact V Tolerance Volt Check tolerance Volt	: 1.600 : +- 0.060
Uact V Tolerance Volt Check tolerance Volt Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1.600 : +- 0.060 : +- 0.080
Uact V Tolerance Volt Check tolerance Volt Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spreed	: 1.600 : + 0.060 : + 0.080 : 24.0
Uact V Tolerance Volt Check tolerance Volt Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spreed Tolerance	: 1.600 : + 0.060 : + 0.080 : + 24.0 : + 3.0
Uact V Tolerance Volt Check tolerance Volt Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spreed	: 1.600 : + 0.060 : + 0.080 : 24.0
Uact V Tolerance Volt Check tolerance Volt Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spreed Tolerance cm3/1000 strokes	: 1.600 : +- 0.060 : +- 0.080 : 24.0 : +- 3.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 25,04,97 : ISO 4113 Test oil

Combination No. : 0 402 946 031

Injection pump

Pump designation : PES6P120A320RS8038 EP type number : 0 412 926 032

Governor

Governer design. : RQ250/1000PA1265-2 Governer no. : 0 421 801 822

Cust. part No. : 1385102

Customer-spec. information Customer : SCANIA : DSC 9.15 Motor

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet

temp. °C : -- 2.0 Tolerance "C

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5
Tolerance bar : +- 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : + 20.0

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

251.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : +- 1.0

Prestroke om : 4.00 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 20.50 Tolerance mm : +- 0.20

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240 Tolerance : +- 0.30

Check

tolerance $^{\circ}NW$: +- 0.50

Start of delivery blocking

: +- 0.30 Tolerance

Check

tolerance *NW : + 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm: 12.70

Tolerance mm : +- 0.05	+ guide sleeve
	+ travel mm : 3.50
Del. quantity	+ Tolerance mm : + 0.10
cm3/1000 strokes : 300.0	
	Rated speed rpm : 540
Tolerance	guide sleeve
cm3/1000 strokes : +- 1.0	travel mm : 4.50
CIID7 (000 St) 0865 . 1 1.0	Tolerance mm : + 0.10
Check tolerance	T roterance min : + 0.10
cm3/1000s. : +- 9.0	T Detail enough num . 1600
cm3/10003. : +- 9.0	Rated speed rpm : 1680
On a seed	+ guide sleeve
Spreed	travel mm : 11.50
	† Tolerance mm : + 0.50
Tolerance	+
cm3/1000 strokes : 8.0	+
	+ GUIDE SLEEVE POSITION
Check tolerance	+
cm3/1 000 s. : 12.0	Rated speed rpm : 1522
	+
	Rack travel in mm: 11.70
	+ Tolerance mm : + 1.30
Rated speed rpm : 250	+
च्याच्या त्राच्याच्या १ १ ०१४ व्य ्याच्या	•
Rack travel in mm : 5.10	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : + 0.10	TOLE COMO DELL'ENT MI TOLE LOND OTO
Del. quantity	Rated speed rpm : 600
cm3/1000 strokes : 40.0	Aneroid pressure
Tolerance	4000
cm3/1000 strokes : +- 3.0	· ·
· · · · · · · · · · · · · · · · · · ·	+ Del. quantity
Check tolerance	cm3/1000 strokes : 300.0
cm3/1000s. : +- 6.0	+ Tolerance
Spreed	+ cm3/1000 strokes : +- 1.0
Tolerance	+ Check tolerance
cm3/1000 strokes : 4.0	+ cm3/1000s. : +- 9.0
Check tolerance	+ Spreed
cm3/1000s. : 8.0	+ Tolerance
	+ cm3/1000 strokes : 8.0
	+ Check tolerance
(B) SETTING OF INJECTION PUMP	+ cm3/1090s. : 12.0
WITH GOVERNOR	1
	1
GUIDE SLEEVE TRAVEL	+ CONTROL LEVER
трары тышыры ттППРЫы	
Rated speed rpm : 1076	- control lever
guide sleeve	position degree : 42.0
travel mm : 4.72	tolerance degree : +- 4.0
	T coverance degree : +3 4.0
Tolerance mm : + 0.15	T control loves
Datad annual mer : 350	+ control lever
Rated speed rpm : 250	position degree : 106.0
guide sleeve	+ tolerance degree : +- 4.0
travel mm : 1.25	†
Tolerance mm : +- 0.20	+ RATED SPEED
	+ rack travel mm : 11.70
Rated speed rpm : 1000	+ Rated speed rpm : 1045
guide sleeve	+ Tolerance 1/min : + 5
travel mm : 4.50	+ Check
Tolerance mm : +- 0.10	+ speed 1/min : + 10
	1
Rated speed rpm : 418	rack travel mm : 4.00
nated speed (bill . Till	T TOUR CLOVE CHANGE . 4.00

Rated speed rpm	: 1200	+ Pressure hPa	• _
Tolerance 1/min		Rated speed	rpm : 500
Check	• • • • • • • • • • • • • • • • • • • •	rack travel r	
speed 1/min	: +- 20	Tolerance mm	
speed triiiii	20	T Total and	0.20
rack travel mm	: 0.50	T MEASUREMENT	
Tolerance mm	: +- 0.50	THEASUREMENT	
· -	_	T Detail aread	500
Rated speed rpm	: 1350	+ Rated speed (rpm : 500
		Pressure hPa	. 750
			: 350
		+ rack travel	
1011 7015		Tolerance mm	: ← 0.15
LOW IDLE		† 2	
		+ Pressure hPa	
		+ rack travel r	
control lever	07.0	+ Tolerance mm	: + 0.05
position degree			
tolerance degree	: ← 4.0	+ Start interlo	ock
		†	
control lever		+	
position degree		+	
tolerance degree	: ← 4.0	+ FUEL DELIVERY	Y CHARACTERISTICS
-		+	
Testing:		+ Aneroid press	
		+ hPa	: 1500
Rated speed rpm	: 250	+ Rated speed i	rpm : 1000
rack travel mm	: 5.10	+ Del. quantity	,
Tolerance ma	: +- G.10	÷ cm3/1000 str	okes : 290.0
		→ Tolerance	
rack travel mm	: 2.00	+ cm3/1000 stro	okes : +- 4.0
Rated speed rpm		+ Check tolerar	
Tolerance 1/min	: +- 20	+ cm3/1000s.	
2.00			
Rated speed rpm	: 200	Aneroid press	sure
		+ hPa	: -
CRT mm min.	: > 8.00	Rated speed i	rom : 500
		+ Del. quantity	
			okes : 172.0
TORQUE CONTROL		Tolerance	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
			okes : + 1.0
Rated speed rpm	: 600	+ Check tolerar	
rack travel mm	: 12.70	- cm3/1000s.	
Tolerance mm		1	
10101 01100		<u>.</u>	
Rated speed rpm	: 1000		
rack travel mm		+ STARTING FUEL	NEI TUERY
Tolerance mm		I STARTING TOER	- DECIVER!
Toter differ limit	0.05	Del. quantity	,
ANEROID/ALTITUDE		Tolerance	kes . 270.0
			okes : + 20.0
COMPENSATOR TEST			
		+ Check tolerar	
CETTIAL		† cms/1000s.	: + 24.0
SETTING		†	
nakad sesa 1	. 500	†	
Rated speed rpm	: 500	†	
Pressure hPa	: 1500	†	
rack travel mm	: 12.70	+ LOW IDLE	
Tolerance mm	: ← 0.05	†	
		+ Rated speed r	rpm : 250

Del. quantity cm3/1000 strokes	:	40.0
Tolerance cm3/1000 strokes Check tolerance	: +-	3.0
cm3/1000s.	: +-	6.0
Tolerance cm3/1000 strokes Check tolerance	:	4.0
cm3/1000s.	:	8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 29.04.97

Test oil

: ISO 4113

Combination No. : 0 403 436 104

Injection pump

Pump designation : PES6MW100/120RS1143

EP type number : 0 413 406 137

Governor

Governer design. : RQV350...1200MW82-1

Governer no. : 0 420 083 153

Cust. part No.

Customer-spec. information

Customer : CUMPIINS

Motor

: 6 CTA-830

Power KW

: 179.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. *C

40

Tolerance °C

2.0

Overflow valve

: 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 017

Opening pressure

bar

208.5

Tolerance bar

: + 1.5

Test lines

: 1 680 750 014

Outside diameter :

6.0

x inside diameter :

2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar :

31.0 Tolerance bar : +- 1.0

Prestroke mm

3.20

Tolerance mm

: **←** 0.05

Check

tolerance mm

: +- 0.10

Rack travel in mm: 10.50

Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

Tolerance

: + 0.50

Check

tolerance *NW

: +- 0.75

Start of delivery blocking

*NW after s.o.d. :

10.00

Barrel no. :

1

BASIC SETTING

Rated speed rpm :

1200

Rack travel in mm:

12.45

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 145.0

Tolerance

cm3/1000 strokes : +- 1.0

		l Dotad annud num	. 1200
Check tolerance		+ Rated speed rpm + Aneroid pressure	: 1200
cm3/1000s.	: +- 3.0	+ hPa	: 700
		+ Del. quantity	
Spreed		+ cm3/1000 strokes	: 145.
		+ Tolerance	
Tolerance	7.5	+ cm3/1000 strokes	: +- 1.
cm3/1000 strokes	: 3.5	+ Check tolerance	
Shark Malanamaa		+ cm3/1000s.	:
Check tolerance cm3/1000s.	: 6.0	+ Spreed + Tolerance	
10003.	. 0.0	cm3/1000 strokes	: 3.
		+ Check tolerance	
		+ cm3/1000s.	: 6.
ated speed rpm	: 350	+	
ack travel in m	7 50	· †	
ack travel in m olerance mm		CONTROL LEVER	
el. quantity	0.10	T CONTROL LEVER	
m3/1000 strokes	: 16.0	- control lever	
olerance		+ position degree	: 104.
m3/1000 strokes	: +- 2.0	+ tolerance degree	
Check tolerance	_	+	
m3/1000s.	: +- 4.5	+ RATED SPEED	
Spreed		+ rack travel mm	: 11.4
Tolerance	. 75	+ Rated speed rpm	
m3/1000 strokes heck tolerance	: 3.5	† Tolerance 1/min	: +-
m3/1000s.	: 5.5	T rack travel mm	: 4.0
D/ 10003.	• 5.5	Rated speed rpm	
		+ Tolerance 1/min	
) SETTING OF IN	NJECTION PUMP	+	
TH GOVERNOR		rack travel mm	: 0.5
		† Tolerance mm	: +- 0.5
The Clean Tha		+ Rated speed rpm	: 1500
IDE SLEEVE TRAV	/EL	Ī	
ated speed rpm	: 800	1	
uide sleeve		+	
ravel mm	: 5.20	+ LOW IDLE	
olerance mm	: ← 0.30	+	
	. 1350	†	
ited speed rpm lide sleeve	. 1230	<pre>control lever position degree</pre>	. 70
ravel mm	: 7.70	tolerance degree	: +- 4
olerance mm	: +- 0.10	+ cotet ance degree	• • •
man		+ Testing:	
ated speed rpm	: 1350	+	
guide sleeve		Rated speed rpm	
travel mm	: 8.80	+ rack travel mm	: 7.5
olerance mm	: +- 0.20	† Tolerance mm	: ← 0.1
ated speed rpm	: 350	Rated speed rpm	: 200
uide sleeve	•	+	
ravel mm	: 1.40	+ CRT mm min.	: > 9.5
olerance mm	: +- 0.20	+	
		Rated speed rpm	: 430
JLL LOAD DELIVER	RY AT FULL LOAD STOP		
	and the second s	TORQUE CONTROL	

		Aneroid pressure
	: 700	hPa
.0	: 145	Del. quantity cm3/1000 strokes
		Tolerance
.0	: +- 1	cm3/1000 strokes Check tolerance
.0	: +- 3	cm3/1000s.
		Spreed Tolerance
.5	: 3	cm3/1000 strokes
0		Check tolerance
.0	: 0	cm3/1000s.
		CONTROL LEVER
		control lever
	: 104	position degree
.0	: + 4	tolerance degree
	4.4	RATED SPEED
	: 11. : 1255	rack travel mm Rated speed rpm
5	: +-	Tolerance 1/min
00	: 4.	rack travel mm
	: 1390	Rated speed rpm
15	: +-	Tolerance 1/min
50	: 0.	rack travel mm
50	: +- O.	Tolerance mm
	: 1500	Rated speed rpm
		LOW IDLE
.0	: 70	control lever
.0	: +- 4	position degree tolerance degree
		Testing:
	: 350	Rated speed rpm
	: 7.	rack travel mm
łU	: ← 0.	Tolerance mm
	: 200	Rated speed rpm
50	: > 9.	CRT mm min.
	: 430	Rated speed rpm
50	: > 9.	CRT mm min.

		+ Aneroid pressure
Rated speed rpm	: 1200	hPa : 700
rack travel mm	: 12.45	
Tolerance mm	: ← 0.0 5	+ Del. quantity
Date of control of	750	+ cm3/1000 strokes : 144.5
Rated speed rpm		Tolerance
rack travel mm	: 12.75	+ cm3/1000 strokes : +- 1.5
Tolerance mm	: 0.05	† Check tolerance
		+ cm3/1000s. : $+$ 4.0
Rated speed rpm		+ Spreed
rack travel mm	: 12.50	+ Tolerance
Tolerance mm	: +- 0.10	+ cm3/1000 strokes : 5.0
		+ Check tolerance
Rated speed rpm	: 900	+ cm3/1000s. : 7.0
rack travel mm		
Tolerance mm	: + 0.10	+ Aneroid pressure
TOCCI GITICO IIIII	0.10	hPa : -
ANDROSA (A) TERMS		· · · · · · · · · · · · · · · · · · ·
ANEROID/ALTITUDE		+ Del. quantity
COMPENSATOR TEST		- cm3/1000 strokes : 94.0
		+ Tolerance
		$\frac{1}{7}$ cm3/1000 strokes : \leftarrow 1.0
SETTING		+ Check tolerance
		+ cm3/1000s. : +- 3.0
Rated speed rpm	: 500	+
Pressure hPa	: -	+
rack travel mm	: 10.85	
Tolerance mm	: + 0.05	+ STARTING FUEL DELIVERY
		1
Pressure hPa	: 390	+ Rated speed rom : 100
Pressure hPa Rated speed rom	: 390 · 500	+ Rated speed rpm : 100
Rated speed rpm	: 500	rack travel mm : 20.00
Rated speed rpm rack travel mm	: 500 : 11.30	rack travel mm : 20.00 Tolerance mm : + 1.00
Rated speed rpm	: 500	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity
Rated speed rpm rack travel mm Tolerance mm	: 500 : 11.30	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0
Rated speed rpm rack travel mm	: 500 : 11.30	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT	: 500 : 11.30 : +- 0.05	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0
Rated speed rpm rack travel mm Tolerance mm	: 500 : 11.30 : +- 0.05	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm	: 500 : 11.30 : +- 0.05 : 500	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa	: 500 : 11.30 : +- 0.05 : 500 : 700	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm	: 500 : 11.30 : +- 0.05 : 500 : 700 : 12.75	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa	: 500 : 11.30 : +- 0.05 : 500 : 700	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 11.30 : + 0.05 : 500 : 700 : 12.75 : + 0.10	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa	: 500 : 11.30 : ← 0.05 : 500 : 700 : 12.75 : ← 0.10 : 500	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 11.30 : +- 0.05 : 500 : 700 : 12.75 : +- 0.10 : 500 : 12.20	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0 LOW IDLE
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa	: 500 : 11.30 : +- 0.05 : 500 : 700 : 12.75 : +- 0.10 : 500 : 12.20	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm	: 500 : 11.30 : ← 0.05 : 500 : 700 : 12.75 : ← 0.10 : 500	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0 LOW IDLE Rated speed rpm : 350
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 500 : 11.30 : +- 0.05 : 500 : 700 : 12.75 : +- 0.10 : 500 : 12.20	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0 LOW IDLE Rated speed rpm : 350 Del. quantity
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm	: 500 : 11.30 : +- 0.05 : 500 : 700 : 12.75 : +- 0.10 : 500 : 12.20	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0 LOW IDLE Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 16.0
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Start interlock	: 500 : 11.30 : + 0.05 : 500 : 700 : 12.75 : + 0.10 : 500 : 12.20 : + 0.15	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0 LOW IDLE Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 16.0 Tolerance
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm	: 500 : 11.30 : +- 0.05 : 500 : 700 : 12.75 : +- 0.10 : 500 : 12.20 : +- 0.15	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0 LOW IDLE Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : + 2.0
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Start interlock	: 500 : 11.30 : +- 0.05 : 500 : 700 : 12.75 : +- 0.10 : 500 : 12.20 : +- 0.15	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0 LOW IDLE Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm	: 500 : 11.30 : +- 0.05 : 500 : 700 : 12.75 : +- 0.10 : 500 : 12.20 : +- 0.15	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0 LOW IDLE Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check	: 500 : 11.30 : +- 0.05 : 500 : 700 : 12.75 : +- 0.10 : 500 : 12.20 : +- 0.15 : > 100 : < 220	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0 LOW IDLE Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min	: 500 : 11.30 : +- 0.05 : 500 : 700 : 12.75 : +- 0.10 : 500 : 12.20 : +- 0.15	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0 LOW IDLE Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check	: 500 : 11.30 : +- 0.05 : 500 : 700 : 12.75 : +- 0.10 : 500 : 12.20 : +- 0.15 : > 100 : < 220 : > 80	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0 LOW IDLE Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes : 3.5
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min	: 500 : 11.30 : +- 0.05 : 500 : 700 : 12.75 : +- 0.10 : 500 : 12.20 : +- 0.15 : > 100 : < 220	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0 LOW IDLE Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check	: 500 : 11.30 : +- 0.05 : 500 : 700 : 12.75 : +- 0.10 : 500 : 12.20 : +- 0.15 : > 100 : < 220 : > 80	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0 LOW IDLE Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes : 3.5
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min	: 500 : 11.30 : + 0.05 : 500 : 700 : 12.75 : + 0.10 : 500 : 12.20 : + 0.15 : > 100 : < 220 : > 80 : < 240	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0 LOW IDLE Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance
Rated speed rpm rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check	: 500 : 11.30 : + 0.05 : 500 : 700 : 12.75 : + 0.10 : 500 : 12.20 : + 0.15 : > 100 : < 220 : > 80 : < 240	rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0 LOW IDLE Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 04.07.95 Edition Test oil : ISO 4113

: 0 460 424 063 Part no. Pump designation: VE4/12F1150R374-1

Customer-spec, information

Customer : CDC

: 4 BTA 3.9 IND. Motor

TEST BENCH REQUIREMENTS

Calibrating oil

return

temperature °C : 45 Tolerance °C + :

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 Tolerance bar + :

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,55

Tolerance mm +: 0.02(0.06)

Outlet : A

Prestroke

(as of UT) mm : 0.3Tolerance mm +: 0.02

Check

tolerance mm + : 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

850 Rated speed rpm :

Aneroid pressure

hPa 1000

Setting mm 4.2 0.2 Tolerance mm +-:

Shutofr solenoid Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 850

Aneroid pressure

hPa 1000

Supply pomp

5.9 pressure bar Tolerance bar +-: 0.3

Shutoff solenoid

12 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 850

Aneroid pressure

1000

Del. quantity

cm3/1000 strokes : 89.8

Tolerance

cm3/1000 str. + : 0.5

Spread

Volt

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. 4.5

Shutoff solenoid

12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 63.4

Tolerance

cm3/1000 str. +-:0.5

Shutoff solenoid

12 Volt

Check tolerance cm3/1000s.	: 4.5	+ Rated speed rpm : 500 + Aneroid pressure
IDLE SETTING		hPa : 1000
		SV travel mm : 2.2
Rated speed rpm Del. quantity	: 375	Tolerance mm + : 0.4 Check
cm3/1000 strokes Tolerance	: 11.0	tolerance mm + : 0.7 Shutoff solenoid
cm3/1000 str. +- Shutoff solenoid	3.0	Volt : 12
Volt Spread	: 12	SUPPLY PUMP PRESSURE CHARACTERISTIC
cm3/1000 strokes Check tolerance	: 5.5	Rated speed rpm : 1150 Aneroid pressure
cm3/1000s.	: 7.0	hPa : 1000 + Supply pomp
		+ pressure bar : 7.2
		+ Tolerance bar + : 0.3
		hater the second second
FULL-LOAD SPEED R	REGULATION	Rated speed rpm : 500 Aneroid pressure hPa : 1000 Supply pomp pressure bar : 4.3 Tolerance bar +: 0.3 Shutoff solenoid Volt : 12
Rated speed rpm Pressure hPa	: 1220 : 1000	+ Rated speed rpm : 500 + Aneroid pressure
Del. quantity	. ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	+ hPa : 1000
cm3/1000 strokes	: 44.0	+ Supply pomp
Tolerance		+ pressure bar : 4.3
cm3/1000 str. +-		+ Tolerance bar + : 0.3
Shutoff solenoid		+ Shutoff solenoid
Volt	: 12	+ Volt : 12
STARTING FUEL DEL	IVERY	OVERFLOW QUANTITY
Rated speed rpm Del. quantity	: 100	Rated speed rpm : 1150 Aneroid pressure
cm3/1000 strokes	: 95.0	+ hPa : 1000
Tolerance		+ Overflow quantity
cm3/1000 str	: 35.0	- ccm/10s : 97.2
Shutoff solenoid		+ Tolerance
Volt	: 12	ccm/10s +-: 41.6
		+ Check tolerance
		+ ccm/10s $+$: 41.6
		+ Shutoff solenoid
INJECTION-PUMP TE	ST SPECIFICATIONS	+ Volt : 12
TIMING DEVICE CHA	RACTERISTIC	+ Rated speed rpm : 500 + Overflow quantity
Rated speed rpm	: 1150	+ ccm/10s : 63.8 + Tolerance
Aneroid pressure		+ ccm/10s +-: 22.2
hPa	: 1000	+
Cit Annual	. 54	+ Check tolerance
SV travel mm	: 5.6	+ ccm/10s +: 22.2
Tolerance mm +-	0.4	+ Shutoff solenoid + Volt : 12
Check tolerance mm +-	.: 0.7	I 40(1 : 15
Shutoff solenoid		T DELIVERY AND BREAKAWAY CHARACTERISTIC
Volt	: 12	Rated speed rpm : 1220

Aneroid pressure hPa :	1000	<pre>pel. quantity cm3/1000 strokes :</pre>	84.5
Del. quantity cm3/1000 strokes :	44.0	+ Tolerance + cm3/1000 str. +-:	1.5
Tolerance cm3/1000 str. +-:	3.0	the Check tolerance cm3/1000s. +-:	3. 5
Check tolerance cm3/1000s. +-:	6.0	+ Shutoff solenoid + Volt :	12
Shutoff solenoid Volt :	12	Rated speed rpm : Aneroid pressure	500
Rated speed rpm : Aneroid pressure	1245	+ hPa : + Del. quantity	1000
hPa : Del. quantity	1000	cm3/1000 strokes :	98.5
cm3/1000 strokes : Check tolerance	25.0	+ cm3/1000 str. + : + Shutoff solenoid	4.0
cm3/1000s. +-: Shutoff solenoid	20.0	+ Volt :	12
Volt :	12	Rated speed rpm : Aneroid pressure	850
Rated speed rpm : Aneroid pressure		hPa : Del. quantity	1000
hPa : Del. quantity	1000	cm3/1000 strokes : Tolerance	
cm3/1000 strokes : Tolerance	1.5	cm3/1000 str. + :	
cm3/1000 str. +-: Check tolerance cm3/1000s. +-:	1.5 1.5	cm3/1000s. +: Shutoff solenoid	3.0
cm3/1000S. +-: Shutoff solenoid	1.5	+ Volt :	12
	12		
Volt :	12 700	MECHANICAL SHUTOFF	
Volt : Rated speed rpm : Aneroid pressure	700	Rated speed rpm :	1150
<pre>Rated speed rpm : Aneroid pressure hPa : Del. quantity</pre>	700 350	Rated speed rpm : Aneroid pressure hPa :	1800
Volt : Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance	700 350 82.4	Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes :	
Volt : Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes :	700 350	Rated speed rpm : Aneroid pressure hPa : Del. quantity	1000 1.5
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance	700 350 82.4 0.5	Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Spread cm3/1000 strokes : Check tolerance	1000 1.5 1.5 5.0
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm :	700 350 82.4 0.5 4.0	Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Spread cm3/1000 strokes : Check tolerance cm3/1000s. + : Spread	1000 1.5 1.5 5.0 1.5
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Shutoff solenoid Volt : Rated speed rpm Aneroid pressure hPa :	700 350 82.4 0.5 4.0	Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-: Spread cm3/1000 strokes : Check tolerance cm3/1000s. +-: Spread cm3/1000s. +-: Spread cm3/1000 strokes : Spread cm3/1000 strokes : Spread	1000 1.5 1.5 5.0 1.5 5.0
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000str. +-: Check tolerance cm3/1000s. +-: Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes :	700 350 82.4 0.5 4.0 12	Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Spread cm3/1000 strokes : Check tolerance cm3/1000s. +: Spread cm3/1000s strokes :	1000 1.5 1.5 5.0 1.5
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Tolerance cm3/1000 str. + :	700 350 82.4 0.5 4.0 12 1150 1000	Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Spread cm3/1000 strokes : Check tolerance cm3/1000s. +: Spread cm3/1000 strokes : Spread cm3/1000 strokes : Spread cm3/1000 strokes : ELECTR. SHUTOFF	1000 1.5 1.5 5.0 1.5 5.0
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + :	700 350 82.4 0.5 4.0 12 1150 1000 81.3	Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Spread cm3/1000 strokes : Check tolerance cm3/1000s. + : Spread cm3/1000 strokes : Spread cm3/1000 strokes : Spread cm3/1000 strokes : ELECTR. SHUTOFF CONTROL LEVER, IDLE	1000 1.5 1.5 5.0 1.5 5.0 12
Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Shutoff solenoid Volt : Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance	700 350 82.4 0.5 4.0 12 1150 1000 81.3 1.5	Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Spread cm3/1000 strokes : Check tolerance cm3/1000s. +: Spread cm3/1000 strokes : Spread cm3/1000 strokes : Spread cm3/1000 strokes : ELECTR. SHUTOFF	1000 1.5 1.5 5.0 1.5 5.0 12
Rated speed rpm: Aneroid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance cm3/1000str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt: Rated speed rpm: Aneroid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid	700 350 82.4 0.5 4.0 12 1150 1000 81.3 1.5 3.0	Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Spread cm3/1000 strokes : Check tolerance cm3/1000s. + : Spread cm3/1000 strokes : Spread cm3/1000 strokes : Shutoff solenoid Volt : ELECTR. SHUTOFF CONTROL LEVER, IDLE Rated speed rpm : Del. quantity	1000 1.5 1.5 5.0 1.5 5.0 12 STOP 375 1.5

Check tolerance cm3/1000s. +-	:	1.5	
Spread cm3/1000 strokes	:	5.0	
FULL-LOAD STOP CON	NTROL	LEVER	
Rated speed rpm	:	375	
Del. quantity cm3/1000 strokes	:	1.5	
Tolerance cm3/1000 str. +-	:	1.5	
Spread cm3/1000 strokes	•	5.0	
Check tolerance			
cm3/1000S. +-	:	1.5	
cm3/1000 strokes	:	5.0	
IDLE DELIVERY			
Rated speed rpm	:	450	
Del. quantity cm3/1000 strokes	:	2.0	
Tolerance cm3/1000 str. +-	:	2.0	
Check tolerance cm3/1000s. +-		2.0	
Shutoff solenoid	•		
Volt	:	12	
START TRANSITION			
Rated speed rpm	:	230	
Del. quantity cm3/1000 strokes	:	40.0	
Tolerance cm3/1000 str. +-	:	20.0	
Shutoff solenoid Volt	•	12	
VOCE	•	16	
made opene hem	:	130	
Del. quantity cm3/1000 strokes	:	95.0	
Tolerance cm3/1000 str. +-	:	35.0	
Shutoff solenoid Volt	:	12	
1000	•	16	
ASSEMBLY AND ADJUS	STMEN	T DIMENSI	NS SWS
	_	_	

Dimension MS mm : 1,2 Tolerance mm + : 0,2 SVS dimension mm : 2,5

CONTROL LEVER POSITION SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 41,8..47,6

End of test-specification sheet

Dimension KF mm : 5,2 Tolerance mm + : 0,2

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16,10,95 Test oil : ISO 4113

: 0 460 426 256 Part no. Pump designation: VE6/12F1250R498-8

Customer-spec. information Customer : CDC

Motor : 6 BTAA 5.9B

TEST BENCH REQUIREMENTS

Calibrating-oil return

temperature °C Tolerance °C

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 109 assembly

Opening pressure

207 bar Tolerance bar + :

: 1 680 750 000 Test Lines

Outside diameter : 6.00

x inside diameter: 2.00 840 x length mm :

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,4

Tolerance mm \div : 0,02(0,06)

Outlet | : D

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1000

Aneroid pressure

hPa 1000

1.7 Setting mm Tolerance mm 0.2 Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 1000

Aneroid pressure

hPa 1000

Supply pomp

pressure bar 6.6 Tolerance bar +-: 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 850

Aneroid pressure

1000

Del. quantity

cm3/1000 strokes : 84.5

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. 5.0

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURF

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 71.0

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 5.0

Shutoff solenoid

12 Volt :

Check tolerance

cm3/1000s. 6.0

Check tolerance

5.0 cm3/1000s.:

		+ Aneroid pressure	
IDLE SETTING		+ hPa :	1000
5. 55 55		+ Shutoff solenoid	
Rated speed rpm Del. quantity	: 350	t Volt :	12
cm3/1000 strokes Tolerance	: 8.0	Rated speed rpm :	450
cm3/1000 str. +-	: 2.0	SV travel mm :	2.4
Shutoff solenoid	. 2.0	+ Tolerance mm +-:	0.5
Volt	: 12	+ Check	0.5
Spread	-	+ tolerance mm +:	0.7
cm3/1000 strokes	: 5.5	Shutoff solenoid	
Check tolerance		+ Volt :	12
cm3/1000s.	: 7.0	+	
		+ KSB/AFB Volt :	12
	•	- Rated speed rpm :	850
		+ Aneroid pressure	
FULL-LOAD SPEED RE	EGULATION	+ hPa :	1000
		+	
Rated speed rpm	: 1380	+ SV travel mm :	0.7
Pressure hPa	: 1000	+ Tolerance mm +:	0.4
Del. quantity	10.5	Check	0.7
cm3/1000 strokes	: 60.5	tolerance mm +:	0.7
Tolerance cm3/1000 str. +-	: 3.0	+ Shutoff solenoid + Volt :	12
Shutoff solenoid	. 3.0	I vott	12
Volt	: 12	SUPPLY PUMP PRESSUR	E CHARACTERISTIC
STARTING FUEL DEL	TMEDY	Rated speed rpm :	1250
STANTING TOLL DEL	IVERI	Aneroid pressure	1230
Rated speed rpm	: 100	+ hPa :	1000
Del. quantity		+ Supply pomp	. 555
cm3/1000 strokes	: 85.0	+ pressure bar :	7.6
Tolerance		+ Tolerance bar + :	0.3
cm3/1000 str. +-	: 15.0	+ Shutoff solenoid	
Shutoff solenoid		+ Volt :	12
Volt	: 12	+	
		+ Rated speed rpm :	850
		+ Aneroid pressure	4000
		+ hPa :	1000
		+ Supply pomp + pressure bar :	6.2
INJECTION-PUMP TE	ST SPECIFICATIONS	Tolerance bar +-:	
110201101110111111	01 01 2021 1071 10110	+ Shutoff solenoid	0.5
TIMING DEVICE CHA	RACTERISTIC	+ Volt :	12
Datad sacad man	: 1250	Rated speed rpm :	500
Rated speed rpm Aneroid pressure	: 1230	+ Aneroid pressure	J 00
hPa	: 1000	+ hPa :	1000
17- 40		+ Supply pomp	1000
SV travel mm	: 2.4	+ pressure bar :	4.4
Tolerance mm +-	: 0.4	+ Tolerance bar +-:	
Check		+ Shutoff solenoid	
tolerance mm +-	: 0.7	+ Volt :	12
Shutoff solenoid	4-2	†	
Volt	: 12	+ OVERFLOW QUANTITY	
Rated speed rpm	: 500	Rated speed rpm :	500

Overflow quantity		+ Aneroid pressure	
ccm/10s	: 63.8	1.50	
Tolerance	. 03.0		
	. 22.2	- Del. quantity	
ccm/10s +	: 22.2	+ cm3/1000 strokes : 79.5	
•		+ Tolerance	
Check tolerance		+ cm3/1000 str. + : 0.5	
ccm/10s +-	: 2 2.2	+ Check tolerance	
Shutoff solenoid		+ cm3/1000s. $+$: 4.0	
Volt	: 12	Shutoff solenoid	
		+ Volt : 12	
Rated speed rpm	: 1250	1	
Aneroid pressure		+ Rated speed rpm : 1250	
hPa	: 1000	+ Aneroid pressure	
Overflow quantity		+ hPa : 1000	
ccm/10s	: 77.7	Del. quantity	
Tolerance	•	cm3/1000 strokes : 84.0	
ccm/10s →	27.7	Tolerance	
CCIA/ IOS	. 21.1	- cm3/1000 str. + : 1.5	
Charle dallarana			
Check tolerance	. 27 7	+ Check tolerance	
ccm/10s +	: 27.7	+ cm3/1000s. + : 3.0	
Shutoff solenoid	42	+ Shutoff solenoid	
Volt	: 12	+ Volt : 12	
		†	
DELIVERY AND BREAK	AWAY CHARACTERISTIC	+ Rated speed rpm : 500	
		+ Aneroid pressure	
	: 1380	+ hPa : 1000	
Aneroid pressure		+ Del. quantity	
hPa	: 1000	+ cm3/1000 strokes : 97.0	
Del. quantity		+ Tolerance	
cm3/1000 strokes	: 60.5	+ cm3/1000 str. $+$: 5.0	
Tolerance		+ Shutoff solenoid	
cm3/1000 str. +-	: 3.0	+ Volt : 12	
Check tolerance			
cm3/1000s. +-	: 6.0	+ Rated speed rpm : 850	
Shutoff solenoid	. 0.5	Aneroid pressure	
Volt	: 12	+ hPa : 1000	
VOCE	, ,,,	Del. quantity	
Rated speed rpm	: 1465	cm3/1000 strokes : 84.5	
Aneroid pressure	. (40)	Tolerance	
	: 1000	- cm3/1000 str. +-: 0.5	
hPa	1000		
Del. quantity	. 22.0	+ Check tolerance	
cm3/1000 strokes	: 22.0	+ cm3/1000s. $+-$: 3.0	
		Character and constant	
Check tolerance	40.0	+ Shutoff solenoid	
cm3/1000s	: 10.0	+ Shutoff solenoid + Volt : 12	
cm3/1000s			
cm3/1000s	: 10.0 : 12	Volt : 12	
cm3/1000s. → Shutoff solenoid Volt	: 12		
cm3/1000s Shutoff solenoid Volt Rated speed rpm		Volt : 12 MECHANICAL SHUTOFF	
cm3/1000s Shutoff solenoid Volt Rated speed rpm Aneroid pressure	: 12 : 1510	Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250	
cm3/1000s. >- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa	: 12	Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure	
cm3/1000s. >- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity	: 12 : 1510 : 1000	Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1000	
cm3/1000s. >- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: 12 : 1510 : 1000	Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Del. quantity	
cm3/1000s. >- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	: 12 : 1510 : 1000 : 1.5	Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5	
cm3/1000s. >- Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: 12 : 1510 : 1000 : 1.5	Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance	
cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance	: 12 : 1510 : 1000 : 1.5 : 1.5	Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5	
cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +-	: 12 : 1510 : 1000 : 1.5 : 1.5	Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Check tolerance	-
cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance	: 12 : 1510 : 1000 : 1.5 : 1.5	Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Check tolerance cm3/1000s. +-: 1.5	
cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +-	: 12 : 1510 : 1000 : 1.5 : 1.5	Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Check tolerance	
cm3/1000s. Shutoff solenoid volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid	: 12 : 1510 : 1000 : 1.5 : 1.5	Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Check tolerance cm3/1000s. +-: 1.5	
cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid Volt	: 12 : 1510 : 1000 : 1.5 : 1.5	Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Shutoff solenoid	

ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP

Rated speed rpm	•	220
Del. quantity cm3/1000 strokes	;	1.5
Tolerance cm3/1000 str. +-	•	1.5
Check tolerance	•	1.5
cm3/1000s. +-	•	1.5

FULL-LOAD STOP CONTROL LEVER

Rated speed rpm	:	350
Del. quantity cm3/1000 strokes	:	1.5
Tolerance cm3/1000 str. +-		1.5
Check tolerance	•	
cm3/1000s. +-	:	1.5

IDLE DELIVERY

kated speed rpm	:	410
Del. quantity cm3/1000 strokes	:	1.5
Tolerance cm3/1000 str. +	:	1.5
Check tolerance cm3/1000s. +-	:	1.5
Shutoff solenoid Volt	:	12

START TRANSITION

Rated speed rpm		240
Del. quantity	•	240
cm3/1000 strokes	:	80.0
Tolerance		45.0
cm3/1000 str. +-	:	15.0
Shutoff solenoid		40
Volt	:	12
Rated speed rpm	:	130
Del. quantity		
cm3/1000 strokes	:	95.0
Tolerance		
cm3/1000 str. +	:	20.0
Shutoff solenoid	:	20.0

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm	:	3,7
Tolerance mm +	:	0,1
Dimension KF mm	:	6,4
Tolerance mm +		0,2
MS1 dimension mm	:	1,3
Tolerance mm +-	:	0,2

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 01.08.95 Edition Test oil : ISO 4113

: 0 460 424 105 Part no. Pump designation: VE4/12F1150R587

Customer—spec. information Customer : MAN

Motor : D 0824 LUE 521

Power KW 103.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance "C +-:

Overflow

0.55 restriction mm :

Inlet press. bar : 0.35Tolerance bar + : 0.05

Test nozzle holde

: 1 688 901 110 assembly

Opening pressure

Tolerance bar +-:

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x Length mm 840

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 850

Aneroid pressure

hPa 1000

Setting mm 2.4 0.2 Tolerance mm + :

Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 850

Aneroid pressure

hPa 1000

Supply pomp

pressure bar 6.7 Tolerance bar +: 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

008 Rated speed rpm

Aneroid pressure

hPa 1000

Del. quantity

cm3/1000 strokes : 116.0

Tolerance

cm3/1000 str. + :

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. 4.5

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

450 Rated speed rpm

Del. quantity

cm3/1000 strokes : 63.0

Tolerance

cm3/1000 str. + :0.5

Shutoff solenoid

Volt 12

Check tolerance

cm3/1000s.

4.5

IDLE SETTING

Rated speed rpm 350

Del. quantity

cm3/1000 strokes : 20.0

Tolerance

cm3/1000 str. + :2.0

Shutoff solenoid

12 Volt

Comond			1				
Spread cm3/1000 strokes Check tolerance	:	6.0		peed rpm pressure	:	1150	
cm3/1000s.	:	6.5	+ hPa	•	:	1000	
			Supply			8.0	
			+ pressure		:		
				ce bar +	•	0.3	
FIRE LOAD SPEED B	ECHI	ATTONI		solenoid	_	40	
FULL-LOAD SPEED R	といいし	ALION	† Volt		:	12	
Rated speed rpm	:	1225	I Pated s	peed rpm	:	500	
Pressure hPa	:	1000		pressure	•	J00	
Del. quantity	•	.000	+ hPa	pi coodi e	•	1000	
cm3/1000 strokes		70.0	Supply	nomn	•	1000	
Tolerance	•	, 0.0	pressur		•	5.2	
cm3/1000 str. +-		3.0		ce bar +-	:	0.3	
Shutoff solenoid	•	2.0		solenoid	•	0.5	
Volt		12	+ Volt	Socerioru	•	12	
1000	•	12	I		•	1 C	
STARTING FUEL DEL	IVER	Y	OVERFLO	W QUANTITY			
Rated speed rpm	•	100	+ Rated s	peed rpm	:	450	
Del. quantity			+ Overfloo	w quantity			
cm3/1000 strokes	:	120.0	+ ccm/10s	, -	:	63.8	
Tolerance			- deran	ce			
cm3/1000 str. +- Shutoff solenoid	:	30.0	ccm/10s	+	:	22.2	
Volt		12	T charles	-1			
VOCT	•	12		olerance	_	22.2	
			+ ccm/10s		•	22.2	
			•	solenoid	_	10	
			Volt	solenoid	:	12	
	·		+ Volt		:		
INJECTION-PUMP TE	ST S	PECIFICATIONS	Volt Rated s	peed rpm	:	12 1125	
INJECTION-PUMP TE	ST S	PECIFICATIONS	Volt Rated s Aneroid		:	1125	
			Volt Rated s Aneroid hPa	peed rpm pressure	:		
INJECTION-PUMP TE			- Volt - Rated s - Aneroid - hPa - Overflo	peed rpm pressure w quantity	:	1125 1000	
TIMING DEVICE CHA	RACT	ERISTIC	Volt Rated s Aneroid HPa Overflor ccm/10s	peed rpm pressure w quantity	:	1125	
TIMING DEVICE CHA	RACT		Volt Rated space Aneroid Pa Overfloor ccm/10s Toleran	peed rpm pressure w quantity ce	•	1125 1000 97.2	
TIMING DEVICE CHARACTER Speed rpm Aneroid pressure	RACT	ERISTIC 1150	Volt Rated s Aneroid HPa Overflor ccm/10s	peed rpm pressure w quantity ce	:	1125 1000	
TIMING DEVICE CHA	RACT	ERISTIC	Volt Rated s Aneroid Pa Overflor ccm/10s Toleran ccm/10s	peed rpm pressure w quantity ce	•	1125 1000 97.2	
TIMING DEVICE CHARACTER Speed rpm Aneroid pressure hPa	RACT	ERISTIC 1150 1000	Volt Rated spanning Aneroid Pa Overflor ccm/10s Tolerand ccm/10s Check to	peed rpm pressure w quantity ce +-	•	1125 1000 97.2 41.6	
TIMING DEVICE CHARACTER Speed rpm Aneroid pressure hPa SV travel mm	RACT	ERISTIC 1150 1000 3.3	Volt Rated spannersid hPa Overflor ccm/10s Tolerand ccm/10s Check to	peed rpm pressure w quantity ce +- olerance	•	1125 1000 97.2	
TIMING DEVICE CHARACTER SPEEd rpm Aneroid pressure hPa SV travel mm Tolerance mm +	RACT	ERISTIC 1150 1000	Volt Rated sy Aneroid hPa Overflow ccm/10s Tolerand ccm/10s Check to ccm/10s Shutoff	peed rpm pressure w quantity ce +-	•	1125 1000 97.2 41.6	
TIMING DEVICE CHARACTER SPEECH PROPERTY TO LETANCE THE CONTROLLE CHARACTER SV travel mm Tolerance mm +	RACT	ERISTIC 1150 1000 3.3 0.4	Volt Rated spannersid hPa Overflor ccm/10s Tolerand ccm/10s Check to	peed rpm pressure w quantity ce +- olerance	•	1125 1000 97.2 41.6	
TIMING DEVICE CHARACTER Speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Cneck tolerance mm +	RACT	ERISTIC 1150 1000 3.3	Volt Rated sy Aneroid hPa Overflow ccm/10s Tolerand ccm/10s Check to ccm/10s Shutoff Volt	peed rpm pressure w quantity ce +- olerance solenoid	: : : : : : : : : : : : : : : : : : : :	1125 1000 97.2 41.6 41.6	ISTIC
TIMING DEVICE CHARACTER Speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Cneck tolerance mm +- Shutoff solenoid	RACT	ERISTIC 1150 1000 3.3 0.4 0.7	Volt Rated sy Aneroid hPa Overflow ccm/10s Tolerand ccm/10s Check to ccm/10s Shutoff Volt	peed rpm pressure w quantity ce +- olerance solenoid	: : : : : : : : : : : : : : : : : : : :	1125 1000 97.2 41.6	ISTIC
TIMING DEVICE CHARACTER Speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Cneck tolerance mm +	RACT	ERISTIC 1150 1000 3.3 0.4	Volt Rated sy Aneroid hPa Overflow ccm/10s Tolerand ccm/10s Check to ccm/10s Shutoff Volt DELIVER	peed rpm pressure w quantity ce 	: : : : : : : : : : : : : : : : : : : :	1125 1000 97.2 41.6 41.6 12 Y CHARACTER	ISTIC
TIMING DEVICE CHARACTER Speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Cneck tolerance mm + Shutoff solenoid Volt	RACT : :	ERISTIC 1150 1000 3.3 0.4 0.7	Volt Rated sign and	peed rpm pressure w quantity ce olerance solenoid Y AND BREAM	: : : : :	1125 1000 97.2 41.6 41.6	ISTIC
TIMING DEVICE CHARACTER Speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Cneck tolerance mm + Shutoff solenoid Volt Rated speed rpm	RACT	ERISTIC 1150 1000 3.3 0.4 0.7	Volt Rated sign and	peed rpm pressure w quantity ce +- olerance solenoid Y AND BREAM	: : : : :	1125 1000 97.2 41.6 41.6 12 Y CHARACTER	ISTIC
TIMING DEVICE CHARACTER Speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Cneck tolerance mm +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure	RACT : :	ERISTIC 1150 1000 3.3 0.4 0.7 12 750	Volt Rated sign and	peed rpm pressure w quantity ce	: : : : :	1125 1000 97.2 41.6 41.6 12 Y CHARACTER	ISTIC
TIMING DEVICE CHARACTER Speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Cneck tolerance mm + Shutoff solenoid Volt Rated speed rpm	RACT : : : :	ERISTIC 1150 1000 3.3 0.4 0.7	Volt Rated sy Aneroid hPa Overflor ccm/10s Tolerand ccm/10s Check to ccm/10s Shutoff Volt DELIVER Rated sy Aneroid hPa Del. qua	peed rpm pressure w quantity ce	: : : : : : : :	1125 1000 97.2 41.6 41.6 12 Y CHARACTER 1225 1000	ISTIC
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Cneck tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa	RACT : : : :	ERISTIC 1150 1000 3.3 0.4 0.7 12 750 1000	Volt Rated sy Aneroid hPa Overflow ccm/10s Toleran ccm/10s Check to ccm/10s Shutoff Volt Rated sy Aneroid hPa Del. qui cm3/1000	peed rpm pressure w quantity ce	: : : : : : : :	1125 1000 97.2 41.6 41.6 12 Y CHARACTER	ISTIC
TIMING DEVICE CHARACTER SPEEC PPM Aneroid pressure hPa SV travel mm Tolerance mm + Cneck tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm	RACT : : : : :	ERISTIC 1150 1000 3.3 0.4 0.7 12 750 1000 1.2	Volt Rated sy Aneroid hPa Overflow ccm/10s Tolerand ccm/10s Check to ccm/10s Shutoff Volt DELIVER Rated sy Aneroid hPa Del. qui cm3/100d Tolerand	peed rpm pressure w quantity ce	: : : : : : : : :	1125 1000 97.2 41.6 41.6 12 Y CHARACTER 1225 1000 70.0	ISTIC
TIMING DEVICE CHARACTER SPEEC PPM Aneroid pressure hPa SV travel mm Tolerance mm + Cneck tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Colerance RACT : : : : :	ERISTIC 1150 1000 3.3 0.4 0.7 12 750 1000	Volt Rated sy Aneroid hPa Overflow ccm/10s Tolerand ccm/10s Check to ccm/10s Shutoff Volt DELIVER Aneroid hPa Del. qual cm3/100 Tolerand cm3/100	peed rpm pressure w quantity ce	: : : : : : : : :	1125 1000 97.2 41.6 41.6 12 Y CHARACTER 1225 1000	ISTIC	
TIMING DEVICE CHARACTER speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Cneck tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check	RACT : : : : :	ERISTIC 1150 1000 3.3 0.4 0.7 12 750 1000 1.2 0.4	Volt Rated sy Aneroid hPa Overflow ccm/10s Tolerand ccm/10s Check to ccm/10s Shutoff Volt DELIVER Aneroid hPa Del. qua cm3/1000 Tolerand cm3/1000 Check to	peed rpm pressure w quantity ce +- olerance solenoid Y AND BREAM peed rpm pressure antity D strokes ce D str. +- olerance	: : : : : : :	1125 1000 97.2 41.6 41.6 12 Y CHARACTER: 1225 1000 70.0 3.0	ISTIC
TIMING DEVICE CHARACTER Speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Cneck tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Chec	RACT : : : : :	ERISTIC 1150 1000 3.3 0.4 0.7 12 750 1000 1.2	Volt Rated sy Aneroid hPa Overflow ccm/10s Tolerand ccm/10s Check to ccm/10s Shutoff Volt DELIVER Rated sy Aneroid hPa Del. qual cm3/1000 Tolerand cm3/1000 Check to	peed rpm pressure w quantity ce	: : : : : : :	1125 1000 97.2 41.6 41.6 12 Y CHARACTER 1225 1000 70.0	ISTIC
Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Cneck tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid	RACT : : : : :	1150 1000 3.3 0.4 0.7 12 750 1000 1.2 0.4 0.7	Volt Rated sy Aneroid hPa Overflow ccm/10s Tolerand ccm/10s Check to ccm/10s Shutoff Volt DELIVER Rated sy Aneroid hPa Del. qui cm3/1000 Tolerand cm3/1000 Check to cm3/1000 Shutoff	peed rpm pressure w quantity ce +- olerance solenoid Y AND BREAM peed rpm pressure antity D strokes ce D str. +- olerance	: : : : : : :	1125 1000 97.2 41.6 41.6 12 Y CHARACTER 1225 1000 70.0 3.0 8.5	ISTIC
TIMING DEVICE CHARACTER Speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Cneck tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Chec	RACT : : : : :	ERISTIC 1150 1000 3.3 0.4 0.7 12 750 1000 1.2 0.4	Volt Rated sy Aneroid hPa Overflow ccm/10s Tolerand ccm/10s Check to ccm/10s Shutoff Volt DELIVER Rated sy Aneroid hPa Del. qual cm3/1000 Tolerand cm3/1000 Check to	peed rpm pressure w quantity ce	: : : : : : :	1125 1000 97.2 41.6 41.6 12 Y CHARACTER: 1225 1000 70.0 3.0	ISTIC

Aneroid pressure hPa		1000]	t	Rated speed rpm Aneroid pressure	:	450
Del. quantity	•		-	-	hPa	:	200
cm3/1000 strokes Check tolerance	:	7.5	- -	‡	Del. quantity cm3/1000 strokes	:	77.0
cm3/1000s. +- Shutoff solenoid	:	7.5		}	Tolerance cm3/1000 str. +-	•	2.5
Volt	:	12	-	F	Check tolerance		_
Rated speed rpm	:	1350	-	_	cm3/1000s. +- Shutoff solenoid	:	4.0
Aneroid pressure	•	1000	-	+	Volt	:	12
Del. quantity	•		-	-	Rated speed rpm	:	650
cm3/1000 strokes Tolerance	:	1.5	7	<u> </u>	Aneroid pressure hPa	•	1000
cm3/1000 str. +	:	1.5		-	Del. quantity		
Check tolerance cm3/1000s. +-	:	1.5		-	cm3/1000 strokes Tolerance		116.0
Shutoff solenoid Volt	:	12	- -	<u> </u>	cm3/1000 str. +- Check tolerance	:	2.5
			- -	+	cm3/1000s. +-	:	4.0
Reted speed rpm Aneroid pressure	·	1265	- -	-	Shutoff solenoid Volt	:	12
hPa Del. quantity	:	1000	_		Rated speed rpm	:	1000
cm3/1000 strokes	:	35.0	-	-	Aneroid pressure		
Tolerance cm3/1000 str. +-	:	20.0		 	hPa Del. quantity	:	1000
Check tolerance cm3/1000s. +-	:	20.0	7	_	cm3/1000 strokes Tolerance	:	108.0
Shutoff solenoid		12	-	-	cm3/1000 str. +- Check tolerance	:	2.5
Volt	•		-	7	cm3/1000s. +-	:	4.0
Rated speed rpm Aneroid pressure	:	450		ţ	Shutoff solenoid Volt	:	12
hPa	:	400	7	+	Rated speed rpm		450
LDA/			-		Aneroid pressure	:	
HBA stroke mm Del. quantity	:	7.5	- -	<u> </u>	hPa Del. quantity	:	1000
cm3/1000 strokes Tolerance	:	101.0	-	Ì	cm3/1000 strokes Tolerance	:	123.0
cm3/1000 str. +-	:	0.5	7	-	cm3/1000 str. +-	:	4.5
Check tolerance cm3/1000s. +	:	3.5	7	‡	Check tolerance cm3/1000s. +	:	6.0
Shutoff sol en oid Volt		12		t	Shutoff solenoid Volt		12
		-	-	-		•	
Rated speed rpm Aneroid pressure	:	1125		-	Rated speed rpm Aneroid pressure	:	800
hPa Del. quantity	:	1000		t	hPa Del. quantity	:	1000
cm3/1000 strokes	:	104.0	-	+	cm3/1000 strokes	:	116.0
Tolerance cm3/1000 str. +-	:	2.5		F	Tolerance cm3/1000 str. +-	:	0.5
Check tolerance cm3/1000s. +-	:	4.0		ţ	Check tolerance cm3/1000s. +	:	2.5
Shutoff solenoid	•		-	+	Shutoff solenoid	•	
Volt	:	12	3	Ī	Volt	:	12

MECHANICAL SHUTOF	F
Rated speed rpm Aneroid pressure	: 1150
hPa	: 1500
Del. quantity cm3/1000 strokes	: 1.5
Tolerance cm3/1000 str. +- Spread	1.5
cm3/1000 strokes Check tolerance	: 5.0
cm3/1000s. +-	1.5
cm3/1000 strokes Shutoff solenoid	: 5.0
Volt	: 12
ELECTR. SHUTOFF	UE STOP
CONTROL LEVER, ID	
Rated speed rpm Del. quantity	: 350
cm3/1000 strokes Tolerance	: 1.5
cm3/1000 str. +-	1.5
Check tolerance cm3/1000s. +-	1.5
Spread cm3/1000 strokes	: 5.0
FULL-LOAD STOP CO	NTROL LEVER
Rated speed rpm	: 350
Del. quantity cm3/1000 strokes	: 1.5
Tolerance cm3/1000 str. +	1.5
Spread cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s. +	1.5
Spread cm3/1000 strokes	: 5.0
IDLE DELIVERY	
Rated speed rpm	: 450
Del. quantity cm3/1000 strokes	: 1.5
Tolerance cm3/1000 str. +-	1.5
Check tolerance cm3/1000s. +-	: 1.5
Shutoff solenoid	: 12

12

START TRANSITION

Rated speed rpm Del. quantity	:	220
cm3/1000 strokes	:	60.0
Tolerance cm3/1000 str. +-	:	30.0
Shutoff solenoid Volt	:	12
Rated speed rpm	:	170
Del. quantity cm3/1000 strokes	:	120.0
	: :	120.0

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Tolerance mm + Dimension KF mm Tolerance mm + MS1 dimension mm	:::::::::::::::::::::::::::::::::::::::	3,7 0,1 6,4 0,2 1,45	7.5
Tolerance mm +			

End of rest-specification sheet

Volt

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 27.03.96 Test oil : ISO 4113 Part no. : 0 460 424 107 Pump designation : VE4/12F1150R609 Customer—spec. information Customer : MAN Motor : D 0824 LUE 522 Power KW : 92.0

TEST BENCH REQUIREMENTS

Calibrating-oil

	•		
return			
temperature °C	•	:	45
Tolerance °C	+-	:	1

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 110

Opening pressure

bar : 250 Tolerance bar + : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm Aneroid pressure	:	850
hPa	:	1000
Setting mm Tolerance mm +	:	2.4 0.2
Shutoff solenoid Volt	:	12

SUPPLY PUMP PRESSURE

Rated speed rpm	:	850
Aneroid pressure		
hPa	:	1000
Supply pomp		
pressure bar	:	6.7
Tolerance bar +	:	0.3
Shutoff solenoid		
Volt	:	12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm Aneroid pressure	:	900
hPa	:	1000
Del. quantity cm3/1000 strokes	:	100.0
Tolerance cm3/1000 str. +-	:	0.5
Spread cm3/1000 strokes	:	4.0
Check tolerance cm3/1000s.	•	4.5
Shutoff solenoid		12
VOC2	•	12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm	:	500
Del. quantity		<i>(</i> 7.0
cm3/1000 strokes Tolerance	:	63.0
cm3/1000 str. +-	•	0.5
Shutoff solenoid	•	0.5
Volt	:	12
Check tolerance		
cm3/1000s.	:	4.5

IDLE SETTING

Rated speed rpm Del. quantity	:	350
cm3/1000 strokes	:	20.0
Tolerance cm3/1000 str. +- Shutoff solenoid	:	2.0
Volt	:	12

Spread			+				
cm3/1000 strokes	:	6.0	+	Rated speed rpm	:	1150	
Check tolerance			+	Aneroid pressure			
cm3/1000s.	:	6.5	†	hPa	:	1000	
			†	Supply pomp			
			+	pressure bar	:	8.0	
			†	Tolerance bar +	:	0.3	
			+	Shutoff solenoid			
FULL-LOAD SPEED R	EGULAT:	ION	†	Volt	:	12	
.		050	+			500	
Rated speed rpm	; 77	250	†	Rated speed rpm	:	500	
Pressure hPa	:	1000	+	Aneroid pressure		4000	
Del. quantity		40.0	+	hPa	:	1000	
cm3/1000 strokes	:	62.0	†	Supply pomp		5 0	
Tolerance		7.0	†	pressure bar	:	5.2	
cm3/1000 str. +	:	3.0	- †	Tolerance bar +	:	0.3	
Shutoff solenoid		40	†	Shutoff solenoid	_	10	
Volt	:	12	†	Volt	:	12	
STADITING CHELL NEL	TUEDY		T	OVERFLOW QUANTITY			
STARTING FUEL DEL	TACKI		Ι	OVERFLOW GOMMITTI			
Rated speed rpm	•	1C0	I	Rated speed rpm		500	
Del. quantity	•	100	1	Overflow quantity	•	500	
cm3/1000 strokes		120.0	1	ccm/10s	•	111.1	
Tolerance	•		1	Tolerance	•	111.	
cm3/1000 str. +-	•	30.0	1	ccm/10s +	•	22.2	
Shutoff salanaid	•		1		•		
Volt	:	12	1	Check tolerance			
		-	1	ccm/10s +-	:	22.2	
			1	Shutoff solenoid			
			T	Shuroit Sofetiola			
			Ţ	Volt	:	12	
			Ŧ		:	12	
			- 	Volt Rated speed rpm	:	12 1150	
INJECTION-PUMP TE	ST SPE	CIFICATIONS	- ‡	Volt Rated speed rpm Aneroid pressure	:	1150	
			- + + +	Volt Rated speed rpm Aneroid pressure hPa	:		
INJECTION-PUMP TE			- + + + + +	Volt Rated speed rpm Aneroid pressure hPa Overflow quantity	:	1150 1000	
TIMING DEVICE CHA	RACTER:	ISTIC	T + + + + + + + + + + + + + + + + + + +	Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s	:	1150	
TIMING DEVICE CHAP	RACTER:		- + + + + +	Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance	:	1150 1000 152.7	
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure	RACTER:	ISTIC 150	- + + + + + + + + + + + + + + + + + + +	Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s	:	1150 1000	
TIMING DEVICE CHAP	RACTER:	ISTIC	_ _	Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +-	:	1150 1000 152.7	
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa	RACTER:	ISTIC 150 1000	┖╋╋╋╋╇╇╇╇╇╇╇╇	Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance	:	1150 1000 152.7 41.6	
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm	RACTER:	ISTIC 150 1000 3.3	┖ ╋╋╋╋╇╇╇╇	Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s +	:	1150 1000 152.7	
TIMING DEVICE CHARACTER speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +	RACTER:	ISTIC 150 1000	_	Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid	:	1150 1000 152.7 41.6	
TIMING DEVICE CHARACTER speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check	RACTER:	150 1000 3.3 0.4	┣╇╇╇╇╇╇╇╇╇╇╇	Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s +	:	1150 1000 152.7 41.6	
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +-	RACTER:	ISTIC 150 1000 3.3	┌ ╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸	Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt	: : : : : : : : : : : : : : : : : : : :	1150 1000 152.7 41.6 41.6	JSTIC.
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Shutoff solenoid	RACTER:	150 1000 3.3 0.4 0.7	┌ ╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸	Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	1150 1000 152.7 41.6 41.6	eistic
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +-	RACTER:	150 1000 3.3 0.4	_	Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt DELIVERY AND BREAF	: : : : (AWA	1150 1000 152.7 41.6 41.6 12 Y CHARACTER	EISTIC
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Shutoff solenoid Volt	RACTER. : 1' : : :	15TIC 150 1000 3.3 0.4 0.7	┌ ╏╸╬╶╬┈╬┈╬┈╬┈╬┈╬┈╬┈╬┈╬┈╬┈╬┈╬┈╬┈╬┈╬┈╬┈╬┈╬┈╬	Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt DELIVERY AND BREAF Rated speed rpm	: : : : : : : : : : : : : : : : : : : :	1150 1000 152.7 41.6 41.6	ISTIC
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Shutoff solenoid Volt Rated speed rpm	RACTER: 1' : : : : :	150 1000 3.3 0.4 0.7	┌ ╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸	Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt DELIVERY AND BREAM Rated speed rpm Aneroid pressure	: : : : (AWA	1150 1000 152.7 41.6 41.6 12 Y CHARACTER	ISTIC
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure	RACTER. : 1' : : :	15TIC 150 1000 3.3 0.4 0.7 12	┌ ╏╸╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌	Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt DELIVERY AND BREAM Rated speed rpm Aneroid pressure hPa	: : : : (AWA	1150 1000 152.7 41.6 41.6 12 Y CHARACTER	ISTIC
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Shutoff solenoid Volt Rated speed rpm	RACTER. : 1' : : :	15TIC 150 1000 3.3 0.4 0.7	┌ ╏╸╬╸╬┈╬╌╬╶╬╌╬╸╬╌╬╌╬╌╬╸╬╸╬╌╬╌╬╌╬┈╬╸╬╸╬╸╬╸╬╸╬╸╬╸╬╸╬╸	Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid Volt DELIVERY AND BREAM Rated speed rpm Aneroid pressure hPa Del. quantity	: : : : : : : :	1150 1000 152.7 41.6 41.6 12 Y CHARACTER	ISTIC
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm +- Check tolerance mm +- Shutoff solenoid Volt Rated speed rpm Aneroid pressure	RACTER. : 1' : : :	15TIC 150 1000 3.3 0.4 0.7 12	┌ ╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸	Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt DELIVERY AND BREAM Rated speed rpm Aneroid pressure hPa	: : : : : : : :	1150 1000 152.7 41.6 41.6 12 Y CHARACTER 1250 1000	eistic
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa	RACTER. : 1' : : :	15TIC 150 1000 3.3 0.4 0.7 12 750 1000	┌ ╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸	Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt DELIVERY AND BREAM Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: : : : : : : :	1150 1000 152.7 41.6 41.6 12 Y CHARACTER 1250 1000	ISTIC
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check	RACTER: 1' : : : : : : :	15TIC 150 1000 3.3 0.4 0.7 12 750 1000 1.2 0.4	┌ ╽	Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt DELIVERY AND BREAM Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. Check tolerance	: : : : : : : :	1150 1000 152.7 41.6 41.6 12 Y CHARACTER 1250 1000 62.0 3.0	ISTIC
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Check tolerance mm +	RACTER: 1' : : : : : : :	15TIC 150 1000 3.3 0.4 0.7 12 750 1000 1.2	┌ ╬╬╬╬╇╇╇╇╬╬╬╬╇╇╇╇╇╇╇╇╇╇╇╇╇ ╇╇╇╇╇	Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid Volt DELIVERY AND BREAM Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +-	: : : : : : :	1150 1000 152.7 41.6 41.6 12 Y CHARACTER 1250 1000 62.0	ISTIC
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid	RACTER: 1' : : : : : : :	15TIC 150 1000 3.3 0.4 0.7 12 750 1000 1.2 0.4 0.7	┌ ╏╸╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌╬╌	Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s + Check tolerance ccm/10s + Shutoff solenoid Volt DELIVERY AND BREAM Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid	: : : : : : :	1150 1000 152.7 41.6 41.6 12 Y CHARACTER 1250 1000 62.0 3.0 8.5	ISTIC
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Check tolerance mm +	RACTER: 1' : : : : : : :	15TIC 150 1000 3.3 0.4 0.7 12 750 1000 1.2 0.4	┌ ╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸	Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid Volt DELIVERY AND BREAM Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Check tolerance cm3/1000s. +-	: : : : : : :	1150 1000 152.7 41.6 41.6 12 Y CHARACTER 1250 1000 62.0 3.0	RISTIC
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm + Check tolerance mm + Shutoff solenoid	RACTER: 1' : : : : : : : : : : : : : : : : : : :	15TIC 150 1000 3.3 0.4 0.7 12 750 1000 1.2 0.4 0.7	┌ ╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸╏╸	Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s + Check tolerance ccm/10s + Shutoff solenoid Volt DELIVERY AND BREAM Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. + Check tolerance cm3/1000s. + Shutoff solenoid	: : : : : : :	1150 1000 152.7 41.6 41.6 12 Y CHARACTER 1250 1000 62.0 3.0 8.5	ISTIC

Aneroid pressure hPa :	1000	+ + KSB/AFB Volt : 12
Del. quantity cm3/1000 strokes :	16.0	Rated speed rpm : 500
Check tolerance cm3/1000s. +-:	16.0	+ Aneroid pressure + hPa : 1000
Shutoff solenoid Volt :	12	+ Del. quantity + cm3/1000 strokes : 105.5
Rated speed rpm : Aneroid pressure	1350	+ Tolerance + cm3/1000 str. +-: 4.5
hPa : Del. quantity	1000	<pre>+ Check tolerance + cm3/1000S. +-: 6.0 - Shutoff solenoid</pre>
cm3/1000 strokes : Tolerance	1.5	Volt : 12
cm3/1000 str. +-: Check tolerance	1.5	Rated speed rpm : 900 Aneroid pressure
cm3/1000s. +: Shutoff solenoid	1.5	+ hPa : 1000 T Del. quantity
Volt :	12	- cm3/1000 strokes : 100.0 - Tolerance
Rated speed rpm : Aneroid pressure hPa :	5 0 0 300	+ cm3/1000 str. +-: 0.5 + Check tolerance + cm3/1000s. +-: 2.5
LDA/	333	Shutoff solenoid Volt : 12
HBA stroke mm : Del. quantity		
cm3/1000 strokes : Tolerance		+ MECHANICAL SHUTOFF
cm3/1000 str. +: Check tolerance	0.5	Rated speed rpm : 1150 Aneroid pressure
cm3/1000s. +: Shutoff solenoid Volt :	3. 5 12	+ hPa : 1000 + Del. quantity + cm3/1000 strokes : 1.5
Rated speed rpm :		Tolerance - cm3/1000 str. +-: 1.5
Aneroid pressure	1000	Spread - cm3/1000 scrokes : 5.0
Del. quantity cm3/1000 strokes :		- Check tolerance - cm3/1000s. +-: 1.5
Tolerance cm3/1000 str. +-:	2.5	Spread cm3/1000 strokes : 5.0
Check tolerance cm3/1000s. +: Shutoff solenoid	4.0	+ Shutoff salenoid + Volt : 12
Volt :	12	ELECTR. SHUTOFF
Rated speed rpm : Aneroid pressure	750	CONTROL LEVER, IDLE STOP
hPa : Del. quantity		Rated speed rpm : 350 Del. quantity
cm3/1000 strokes : Tolerance		tom3/1000 strokes : 1.5 Tolerance
cm3/1000 str. +: Check tolerance cm3/1000s. +:	2.§ 4.0	+ cm3/1000 str. +-: 1.5 + Check tolerance + cm3/1000s. +-: 1.5
Shutoff solenoid Volt :	12	- Spread - cm3/1000 strokes : 5.0
		+ J.U

FULL-LOAD STOP CO	VTROL	LEVER		
Rated speed rpm				
Del. quantity	•	230		
cm3/1000 strokes	:	1.5		
Tolerance cm3/1000 str. +-	:	1.5		
Spread cm3/1000 strokes		5.0		
Check tolerance				
cm3/1000s. +- Spread	:	1.5		
cm3/1000 strokes	:	5.0		
IDLE DELIVERY				
Rated speed rpm	:	500		
Del. quantity cm3/1000 strokes	:	1.5		
Tolerance		1.5		
cm3/1000 str. +- Check tolerance	:	1.5		
cm3/1000s. +- Shutoff solenoid	:	1.5		
Volt	:	12		
START TRANSITION				
Rated speed rpm	:	220		
Del. quantity cm3/1000 strokes		60.0		
Tolerance	-			
cm3/1000 str. +- Shutoff solenoid	:	30.0		
Volt	:	12		
Production 1		470		
Rated speed rpm Del. quantity	:	170		
cm3/1000 strokes Tolerance	:	120.0		
cm3/1000 str. +-	:	30.0		
Shutoff solenoid Volt	:	12		
		~		
ASSEMBLY AND ADJUS	STMEN	T DIMEN	SIONS	
LDA/ HBA stroke mm Dimension K mm Tolerance mm +- Dimension KF mm	: : 3,7 : 0,7	1		

Tolerance mm + : 0,2 Dimension MS mm : 1,3 Tolerance mm + : 0,2

End of test-specification sheet

L02

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.06.96 : ISO 4113 Test oil

: 0 460 426 222 Part no. Pump designation: VE6/12F1100R543

Customer-spec. information

Customer : MAN

: D 0826 LE 521 Motor Power KW : 140.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 : Tolerance °C + :

Overflow

0.55 restriction mm :

Inlet press. bar : 0.35 Tolerance bar +: 0.05

Test nozzle holde

: 1 688 901 110 assembly

Opening pressure

250 bar Tolerance bar + : 3

Test Lines : 1 680 750 000

Outside diameter : 6.00

2.00 x inside diameter : x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm : 0,2 Tolerance mm +-: 0,02

Check

tolerance mm + : 0.04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 900

Aneroid pressure

hPa 1000

Setting mm 2.0 Tolerance mm +: 0.2

Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

900 Rated speed rom :

Aneroid pressure

hPa 1000 Supply pomp

pressure bar 7.2 Tolerance bar + : 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

1000

Rated speed rpm : 800

Aneroid pressure hPa

Del. quantity

cm3/1000 strokes : 104.0

Tolerance

cm3/1000 str. +-: 0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. 4.5

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 63.0

Tolerance

 $cm3/1000 str. \leftarrow :$ 0.5

Shutoff solenoid

12 Volt

Check tolerance

cm3/1000s. 4.5

IDLE SETTING

			1	Tolerance
Rated speed rpm		370	T	cm3/1000 str. +-: 0.1
	•	370	Ť	
Del. quantity		40.0	†	Shutoff solenoid
cm3/1000 strokes	:	10.0	†	Volt : 12
Tolerance			+	
cm3/1000 str. +-	:	3.5	+	TIMING-DEVICE TRAVEL DIFFERENCE
Shutoff solenoid			+	
Volt	:	12	+	Rated speed rpm : 900
Spread			+	Aneroid pressure
cm3/1000 strokes	:	6.0	+	hPa : 1000
Check tolerance			+	Del. quantity
cm3/1000s.	:	6.5	ļ	cm3/1000 strokes : -1.0
			1	Tolerance
			1	cm3/1000 str. +-: 0.1
			1	Shutoff solenoid
			1	Volt : 12
FULL-LOAD SPEED R	FGIII A	TTON	1	. 12
TOCK COAD OF CED IN		111011	7	
Rated speed rpm	•	1200	I	INJECTION-PUMP TEST SPECIFICATIONS
Pressure hPa	:	1000	T	THOUGHTON FORE 1231 SPECIFICATIONS
	•	1000	T	TIMING REVICE CHARACTERISTIC
Del. quantity	_	70.0	Ť	TIMING DEVICE CHARACTERISTIC
cm3/1000 strokes	•	70.0	Ť	0.000
Tolerance		2.0	Ť	Rated speed rpm : 1000
cm3/1000 str. +-	:	2.0	†	Aneroid pressure
Shutoff solenoid		•-	t	hPa : 1000
Volt	:	12	t	
			+	SV travel mm : 2.4
STARTING FUEL DEL	IVERY	•	+	Tolerance mm + : 0.4
			+	Check
Rated speed rpm	:	100	+	tolerance mm +: 0.7
Del. quantity			+	Shutoff solenoid
cm3/1000 strokes	:	110.0	+	Volt : 12
Tolerance			+	
cm3/1000 str. →	:	30.0	1	Rated speed rpm : 800
Shutoff solenoid			ļ.	Aneroid pressure
Volt	:	12	1	hPa : 1000
•	•		1	
			1	SV travel mm : 0.9
			<u> </u>	Tolerance mm +: 0.4
LOAD-DEPENDENT ST	ART O	F DELTVERY	1	Check
SETTING	AIX 1 Q	N DEELVENT	1	tolerance mm + : 0.7
VET LAIN			1	Shutoff solenoid
DELIVERY DIFFEREN	CE		I	Volt : 12
APPTARM! ATLLEMEN	~ L		I	. 12
Rated speed rpm	•	900	<u> </u>	SUPPLY PUMP PRESSURE CHARACTERISTIC
Pressure hPa	:	1000	I	SOLIEL FORM FRESSORE CHARACTERISTIC
Del. quantity	•	1000	I	Rated speed rpm : 1100
cm3/1000 strokes	•	-20.0	Ţ	Aneroid pressure
	•	-20.0	T	hPa : 1000
Tolerance cm3/1000 str. +-		1.0	T	
	ě	? . U	Ť	Supply pomp
Shutoff solenoid		12	Ť	pressure bar : 8.3
Volt	•	16	T	Tolerance bar +: 0.3
	~=		Ť	Shutoff solenoid
PRESSURE DIFFEREN	LE		†	Volt : 12
0.4		000	†	Dahad amand man
Rated speed rom	:	900	†	Rated speed rpm : 500
Aneroid pressure		4000	†	Aneroid pressure
hPa	•	1000	t	hPa : 1000
Del. quantity			+	Supply pomp
cm3/1000 strokes	:	-0.2	+	pressure bar : 4.9

Tolerance bar +-	:	0.3		+	Tolerance		
Shutoff solenoid Volt		12		†	cm3/1000 str. +- Check tolerance	:	1.5
VOCC	•	12		Ţ	cm3/1000s. +-	:	1.5
OVERFLOW QUANTITY				+	Shutoff solenoid		4.0
Rated speed rpm	•	500		1	Volt	:	12
Overflow quantity				+	Rated speed rpm	:	1240
ccm/10s Tolerance	:	63.8		t	Aneroid pressure hPa		1000
ccm/10s +-	:	22.2		Ţ	Del. quantity	•	1000
Chaele deleganes				+	cm3/1000 strokes	:	40.0
Check tolerance ccm/10s +-	:	22.2		1	Tolerance cm3/1000 str. +-	:	20.0
Shutoff solenoid		4.0		+	Check tolerance		
Volt	:	12		İ	cm3/1000s. +- Shutoff solenoid	:	20.0
Rated speed rpm	:	1100		+	Volt	:	12
Aneroid pressure hPa		1000		+	Dated speed non		500
Overflow quantity	•	1000		Į	Rated speed rpm Aneroid pressure	:	J00
ccm/10s	:	97.2		+	hPa	:	350
Tolerance ccm/10s +-	:	41.6		1	LDA/		
	·			+	HBA stroke mm	:	6.8
Check tolerance ccm/10s +-		41.6		<u>†</u>	Del. quantity cm3/1000 strokes		92.0
Shutoff solenoid	•			Ţ	Tolerance		72.0
Volt	:	12		+	cm3/1000 str. →	:	0.5
DELIVERY AND BREA	KAWA	Y CHARACT	ERISTIC	Ţ	Check tolerance cm3/1000s. +-	:	4.0
• • • • • • • • • • • • • • • • • • • •		4200		+	Shutoff solenoid		42
Rated speed rpm Aneroid pressure	:	1200		1	Volt	:	12
hPa	:	1000		+	Rated speed rpm	:	1100
Del. quantity cm3/1000 strokes	•	70.0		1	Aneroid pressure hPa		1000
Tolerance	•			+	Del. quantity	•	
cm3/1000 str. +- Check tolerance	:	2.0		+	cm3/1000 strokes	:	95.0
cm3/1000s. +-	:	8.5		Į	Tolerance cm3/1000 str. +-	:	2.5
Shutoff solenoid	_	42		+	Check tolerance		, 0
Volt	•	12		1	cm3/1000s. +- Shutoff solenoid	:	4.0
Rated speed rpm	:	1290		+	Volt	:	12
Aneroid pressure hPa	•	1000		1	Rated speed rpm	:	650
Del. quantity	•			+	Aneroid pressure	•	
cm3/1000 strokes Check tolerance	:	7.5		†	hPa Del. quantity	:	1000
cm3/1000s. +-	:	7.5		Į	cm3/1000 strokes	:	104.0
Shutoff solenoid		12		+	Tolerance		2.5
Volt	•	12		‡	cm3/1000 str. +- Check tolerance	•	2.5
Rated speed rpm	:	1320		+	cm3/1000s. +-	:	4.0
Aneroid pressure hPa	:	1000		1	Shutoff solenoid Volt	:	12
Del. quantity	•			+		•	
cm3/1000 strokes	:	1.5		†	Rated speed rpm	:	1000
				T			

Aneroid pressure	+	Del. quantity	
hPa : 1000) 	cm3/1000 strokes :	1.5
Del. quantity	+	Tolerance	
cm3/1000 strokes : 97.5	; †	cm3/1000 str. +:	1.5
Tolerance	. †	Check tolerance	4 F
cm3/1000 str. +: 2.5	· †	cm3/1000s. +-:	1.5
Check tolerance cm3/1000s. +: 4.0	, †	Spread cm3/1000 strokes :	5.0
Shutoff solenoid	' I	ciis/ rudu strokes :	J.U
Volt : 12	, $oxed{1}$	FULL-LOAD STOP CONTRO	I I FVFR
	1	TOLL LOAD OTO, CONTINO	E CEVER
Rated speed rpm : 500	+	Rated speed rpm :	300
Aneroid pressure	+	Del. quantity	
hPa : 1000	,	cm3/1000 strokes :	1.5
Del. quantity	, †	Tolerance	4 5
cm3/1000 strokes : 113.0	'	cm3/1000 str. + :	1.5
Tolerance cm3/1000 str. +-: 6.0	, †	Spread cm3/1000 strokes :	5.0
Check tolerance	' I	Check tolerance	3.0
cm3/1000s. +-: 6.5	\mathbf{I}	cm3/1000s. +-:	1.5
Shutoff solenoid	1	Spread	1.5
Volt : 12	<u> </u>	cm3/1000 strokes :	5.0
	}		
Rated speed rpm : 800	+	IDLE DELIVERY	
Aneroid pressure	. +		
hPa : 1000	'	Rated speed rpm :	450
Del. quantity cm3/1000 strokes : 104.0	, †	Del. quantity cm3/1000 strokes :	1 5
Tolerance	' I	Tolerance	1.5
cm3/1000 str. + : 0.5	\mathbf{I}	cm3/1000 str. +-:	1.5
Check tolerance	1	Check tolerance	1.5
cm3/1000s. + : 3.0	, +	cm3/1000s. +:	1.5
Shutoff solenoid	+	Shutoff solenoid	
Volt : 12	†	Volt :	12
	†		
MECHANICAL CHUTOFF			
MECHANICAL SHUTOFF	Ī		
Rated speed rpm : 1100	<u>Ţ</u>		
Aneroid pressure	1	CHECKING LOAD-DEPENDE	NT
hPa : 1000	,	START OF DELIVERY	•
Del. quantity	+		
cm3/1000 strokes : 1.5	+	DELIVERY DIFFERENCE	
Tolerance	,	Dahad award and	OC:O
cm3/1000 str. + : 1.5	<u>†</u>	Rated speed rpm : Aneroid pressure	900
	. Т		4000
Spread 5 0	·	hPa •	76806
cm3/1000 strokes : 5.0	'	hPa :	1000
cm3/1000 strokes : 5.0 Check tolerance	+	Del. quantity	
cm3/1000 strokes : 5.0 Check tolerance	+		-30.0
cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0		Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-:	
cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 Shutoff solenoid		Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +- : Check tolerance	-30.0 10.0
cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0		Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-:	-30.0
cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 Shutoff solenoid		Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid	-30.0 10.0 10.0
cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 Shutoff solenoid Volt : 12		Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-:	-30.0 10.0
cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 Shutoff solenoid Volt : 12		Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt :	-30.0 10.0 10.0 12
cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 Shutoff solenoid Volt : 12		Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid	-30.0 10.0 10.0 12
cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 Shutoff solenoid Volt : 12		Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt :	-30.0 10.0 10.0 12 DIFFERENCE
cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. + : 1.5 Spread cm3/1000 strokes : 5.0 Shutoff solenoid Volt : 12 ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP		Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +-: Check tolerance cm3/1000s. +-: Shutoff solenoid Volt : TIMING-DEVICE TRAVEL	-30.0 10.0 10.0 12 DIFFERENCE

Aneroid pressure		1000	
hPa Del. quantity	•		
cm3/1000 strokes Tolerance	;	-1.0	
cm3/1000 str. +- Check tolerance	:	0.1	
cm3/1000s. +-	:	0.1	
Shutoff solenoid Volt	:	12	
DELIVERY DIFFEREN	CE		
Rated speed rpm	:	900	
Aneroid pressure hPa	:	1000	
Del. quantity cm3/1000 strokes		5.0	
Tolerance			
cm3/1000 str. +- Check tolerance	:	3.0	
cm3/1000s. +- Shuroff solenoid	:	3.0	
Volt	:	12	
TIMING-DEVICE TRA	VEL	DIFFERENCE	
Rated speed rpm Aneroid pressure	:	900	
hPa	:	1000	
Tolerance mm +- Check	:	1.0	
tolerance mm +- Shutoff solenoid	:	1.0	
Volt	:	12	
START TRANSITION			
	:	450	
Del. quantity cm3/1000 strokes	•	60.0	
Tolerance	•		
cm3/1000 str. +- Shutoff solenoid	:	30.0	
Volt	:	12	
Rated speed rpm	:	350	
Del. quantity cm3/1000 strokes	:	110.0	
Tolerance cm3/1000 str. +-	•	20.0	
Shutoff solenoid			
Volt	:	12	

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/
HBA stroke mm : 6.8
Dimension KF mm : 6,0
Tolerance mm + : 0,2
MS1 dimension mm : 1,2
Tolerance mm + : 0,2
SVS dimension mm : 2,5

CONTROL LEVER POSITION SFT

Control lever

position YA mm : 37,4..40,4

Control lever

position YB mm : 43,4..48,6

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 04,11,91 Edition : ISO 4113 Test oil : 0 460 484 047 Part no. Pump designation: VE4/8F2300R425 Customer-spec. information Customer : PSA Motor : XUD 9A (1.9L.) TEST BENCH REQUIREMENTS Inlet press. bar : 0.35 Tolerance bar +-: 0.05Test nozzle holde : 1 688 901 022 assembly Opening pressure bar Tolerance bar + : 3 Test Lines : 1 680 750 073 Cutside diameter : 6.00 x inside diameter: 2.00 x length mm : 450 REMARKS BEGINNING OF DELIVERY Start of delivery blocking

Plunger stroke mm: 0,3 Outlet : A

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250 Setting mm 3.6 Tolerance mm +-: 0.2 Shutoff solenoid 12 Volt SUPPLY PUMP PRESSURE Rated speed rpm : 1250 Supply pomp pressure bar 6.5 Tolerance bar +-: 0.3 Shutoff solenoid Volt 12 FULL-LOAD DELIV. WITHOUT BOOST PRESSURE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 28.4 Tolerance cm3/1000 str. +-: 0.5 Spread cm3/1000 strokes : 2.0 Shutoff solenoid 12 Volt HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 2.5 Tolerance cm3/1000 str. +-: 0.5 Shutoff solenoid Volt 12 IDLE DELIVERY Rated speed rpm : 375 Del. quantity cm3/1000 strokes : 8.0 Tolerance cm3/1000 str. + :1.0 Spread

cm3/1000 strokes : 2.0 Shutoff solenoid Volt 12 HIGH IDLE SETTING

Rated speed rpm : 475 Del. quantity cm3/1000 strokes : 8.0 Tolerance cm3/1000 str. +-: 1.0

Shutoff solenoid Volt : 12	TIMING DEVICE CHARACTERISTIC
FULL-LOAD SPEED REGULATION	Rated speed rpm : 2000
Rated speed rpm : 2650 Del. quantity cm3/1000 strokes : 12.0 Tolerance	SV travel mm : 7.9 Tolerance mm +-: 0.4 Check
cm3/1000 str. + : 2.0 Shutoff solenoid	tolerance mm +: 0.7 Shutoff solenoid Volt : 12
Volt : 12	Rated speed rpm : 800
STARTING FUEL DELIVERY	+ SV travel mm : 1.4
Rated speed rpm : 100 Del. quantity	Tolerance mm + : 0.4 Check
cm3/1000 strokes : 48.0 Tolerance	tolerance mm +: 0.7 Shutoff solenoid
cm3/1000 str. +: 13.0 Shutoff solenoid	+ Volt : 12
Volt : 12	SUPPLY PUMP PRESSURE CHARACTERISTIC
LOAD DEDENDENT OTART OF DELIVERY	Rated speed rpm : 2200 Supply pomp
LOAD—DEPENDENT START OF DELIVERY SETTING	pressure bar : 8.8 Tolerance bar +-: 0.3 Shutoff solenoid
DELIVERY DIFFERENCE	Volt : 12
Rated speed rpm : 1250 - Del. quantity -	Rated speed rpm : 500 Supply pomp
cm3/1000 strokes : -7.5 Tolerance	+ pressure bar : 4.7 + Tolerance bar + : 0.3
cm3/1000 str. + : 1.0 Shutoff solenoid	Shuroff solemoid Volt : 12
Volt : 12	OVERFLOW QUANTITY
PRESSURE DIFFERENCE	Rated speed rpm : 2200
Rated speed rpm : 1250 Del. quantity - cm3/1000 strokes : -0.2	Overflow quantity ccm/10s : 97.2 Tolerance
Tolerance - cm3/1000 str. ÷ : 0.1	ccm/10s +: 41.6
Shutoff solenoid Volt : 12	Check tolerance ccm/10s + : 55.5
TIMING-DEVICE TRAVEL DIFFERENCE	Shutoff solenoid Volt : 12
Rated speed rpm : 1250	Rated speed rpm : 500 Overflow quantity
Del. quantity - cm3/1000 strokes : -1.0 - Tolerance -	ccm/10s : 62.5 Tolerance
cm3/1000 str. ÷ : 0.1	ccm/10s +: 20.8
Volt : 12	Check tolerance ccm/10s + : 34.7
INJECTION—PUMP TEST SPECIFICATIONS -	Shutoff solenoid Volt : 12

	1	
DELIVERY AND BREAKAW	AY CHARACTERISTIC	
Rated speed rpm :	2650	MECHANICAL SHUTOFF
Del. quantity	+	Rated speed rpm : 2200
cm3/1000 strokes : Tolerance	12.0	Del. quantity cm3/1000 strokes : 1.5
cm3/1000 str. + : Check tolerance	2.0	Tolerance cm3/1000 str. +-: 1.5
cm3/1000S. +-: Shutoff solenoid	4.0	Check tolerance cm3/1000s. +-: 1.5
Volt :	12	Shutoff solenoid Volt : 12
Rated speed rpm : Del. quantity	2500	
cm3/1000 strokes : Check tolerance	24.0	ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP
cm3/1000S. +: Shutoff solenoid	5.0	·
Volt :	12	Rated speed rpm : 375 Del. quantity
Rated speed rpm :	2900	cm3/1000 strokes : 1.5 Tolerance
Del. quantity cm3/1000 strokes :	3.0	cm3/1000 str. +-: 1.5 Check tolerance
Tolerance cm3/1000 str. +-:	3.0	cm3/1000s. +-: 1.5 Shutoff solenoid
Check tolerance cm3/1000S. +-:	3.0	Volt : 12
Shutoff solenoid	+	
Volt :	12	
Rated speed rpm : Del. quantity	2200	
cm3/1000 strokes :	32.1	
Tolerance	32.1	CHECKING LOAD-DEPENDENT
Tolerance cm3/1000 str. +-: Check tolerance	1.0	CHECKING LOAD-DEPENDENT START OF DELIVERY
cm3/1000 str. +-: Check tolerance cm3/1000s. +-:	+	
cm3/1000 str. +-: Check tolerance	1.0	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250
cm3/1000 str. + : Check tolerance cm3/1000S. + : Shutoff solenoid Volt : Rated speed rpm :	1.0	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5
cm3/1000 str. + : Check tolerance cm3/1000s. + : Shuto'f solenoid Volt : Rated speed rpm : Del. quantity cm3/1000 strokes :	1.0	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. + : 2.0
cm3/1000 str. + : Check tolerance cm3/1000S. + : Shutoff solenoid Volt : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + :	1.0 2.2 12 500	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. + : 2.0 Check tolerance cm3/1000s. + : 5.0
cm3/1000 str. + : Check tolerance cm3/1000S. + : Shutoff solenoid Volt : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000S. + :	1.0 2.2 12 500 29.3	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. + : 2.0 Check tolerance
cm3/1000 str. + : Check tolerance cm3/1000S. + : Shutoff solenoid Volt : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance	1.0 2.2 12 500 29.3 1.5	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. + : 2.0 Check tolerance cm3/1000s. + : 5.0 Shutoff solenoid
cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm :	1.0 2.2 12 500 29.3 1.5	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. + : 2.0 Check tolerance cm3/1000s. + : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250
cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Check tolerance cm3/1000s. + : Shutoff solenoid Volt : Rated speed rpm : Del. quantity cm3/1000 strokes :	1.0 2.2 12 500 29.3 1.5 3.0	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. + : 2.0 Check tolerance cm3/1000s. + : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -1.0
cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt: Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000s. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt: Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Tolerance cm3/1000 str. +:	1.0 2.2 12 500 29.3 1.5 3.0 12	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. + : 2.0 Check tolerance cm3/1000s. + : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -1.0 Tolerance cm3/1000 str. + : 0.1
cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: Shutoff solenoid Volt : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance	1.0 2.2 12 500 29.3 1.5 3.0 12 1250 28.4	DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. + : 2.0 Check tolerance cm3/1000s. + : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -1.0 Tolerance

DELIVERY DIFFERENCE

Rated speed rpm Del. quantity	:	1250
cm3/1000 strokes	:	5.0
Tolerance cm3/1000 str. +-	:	3.0
Check tolerance cm3/1000s. +	:	3.0
Shutoff solenoid Volt	:	12

PRESSURE DIFFERENCE

Rated speed rpm Supply pomp	:	1250
pressure bar Tolerance bar +-	:	-1.1 0.2
Shutoff solenoid Volt	:	12

TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm	:	1250
Tolerance mm +-	:	0.2
Check		
tolerence min +	:	0.7
Shutoff solenoid		
Volt	:	12

START TRANSITION

Rated speed rpm Del. quantity	:	350
cm3/1000 strokes Tolerance	:	30.0
cm3/1000 str. +-	:	10.0
Volt	:	12
Ruted speed rpm Del. quantity	:	225
cm3/1000 strokes	:	54.0

cm3/1000 strokes : 54.0
Tolerance
cm3/1000 str. +-: 17.0
Shutoff solenoid
Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension	Kmm	:	3,7
Tolerance			0,1
Dimension	KF mm		6,0
Tolerance	mm +-	:	0,2
Dimension	MS mm	:	1,4
Tolerance	num +-	٠	0.2

End of tout-openification about

BOSCH INJ. PUMP TE	ST SPECIFICATIONS		
Note remarks			
Refer to Service Info for test and adjustment instructions. See microcard(s) W400/			
Edition Test oil	: 10.04.95 : ISO 4113		
Part no. Pump designation	: 0 460 484 097 : VE4/8F2300R425-10		
Customer-spec. inf	ormation		
Customer Motor	. AUDY M-L		
Power KW	: 51.0		
TEST BENCH REQUIRE	MENTS		
Calibrating-oil return			
temperature °C Tolerance °C +	: 45 : 1		
Overflow restriction mm	: 0.55		
Inlet press. bar Tolerance bar +	: 0.35 : 0.05		
Test nozzle holde assembly	: 1 68 % 9 0 7 022		
Opening pressure bar Tolerance bar +-	: 130 : 3		
Test lines	: 1 680 750 073		
Outside diameter	: 6.00		
x inside diameter x length mm	: 2.00 : 450		
REMARKS			

Plunger stroke mm Outlet	1:0,3 : A
INJECTION PUMP SE	TTING VALUES
TIMING DEVICE TRA	VEL
Rated speed rpm	: 1250
Setting mm Tolerance mm +- Shutoff solenoid	: 3.7 : 0.2
Volt	: 12
SUPPLY PUMP PRESS	URE
Rated speed rpm Supply pomp	: 1250
pressure bar Tolerance bar +- Shutoff solenoid	
Volt	: 12
FULL-LOAD DELIV.	WITHOUT BOOST PRESSUR
Pated speed rpm Del. quantity	: 1250
cm3/1000 strokes Tolerance	: 30.2
cm3/1000 str. +-	.: 0.5
Spread cm3/1000 strokes Shutoff solenoid	: 2.0
Volt	: 12
HOUSING-FIXED IDL RESIDUAL QUANTITY	
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes Tolerance	: 5.0
cm3/1000 str. +- Shutoff solenoid	.: 0.5
Volt	: 12
IDLE DELIVERY	
Rated speed rpm Del. quantity	: 400
cm3/1000 strokes Tolerance	: 13.0
cm3/1000 str. +-	1.0
cm3/1000 strokes Shutoff solenoid	: 2.0
Volt	: 12

BEGINNING OF DELIVERY

Start of delivery blocking

		•			
		†	Del. quantity		
HIGH IDLE SETTING		†	cm3/1000 strokes	: -	-1.0
		. +	Tolerance		_
Rated speed rpm	: 475	·	cm3/1000 str. +	:	0.1
Del. quantity		+	Shutoff solenoid		
cm3/1000 strokes	; 9).5 ÷	Volt	:	12
Toierance		+			
cm3/1000 str. +-	: 1	·.0 +			
Shutoff solenoid		+	INJECTION-PUMP TES	T SPECI	[FICATIONS
Volt	:	12 +			
		+	TIMING DEVICE CHAR	ACTERIS	STIC
FULL-LOAD SPEED R	EGULATION)			
		+	Rated speed rpm	: 200	00
Rated speed rpm	: 2650) +			
Del. quantity		+	SV travel mm	:	7.1
cm3/1000 strokes	: 11	.0 +	Tolerance mm +-	:	0.4
Tolerance		1	Check		
cm3/1000 str. +-	: 2	2.0	tolerance mm +	:	0.7
Shutoff solenoid	-	1	Shutoff solenoid		
Volt	•	12 +	Volt	:	12
	•	1		•	
STARTING FUEL DEL	TVERY	1	Rated speed rpm	: 80	no
	- 4 = 1 \ 1	1		. 50	
Rated speed rpm	: 100	1	SV travel mm	•	1.6
Del. quantity		_	Tolerance mm +		0.4
cm3/1000 strokes	. 55	i.o \ \ \ \	Check	•	0. 4
Tolerance	.)	1	tolerance mm +		0.7
cm3/1000 str. +-	: 13	\mathbf{I}	Shutoff solenoid	•	0.7
Shutoff solenoid		1	Volt	•	12
Volt	•	12	VOCE	•	12
VOCE	•	1	SUPPLY PUMP PRESSU	DE CHAR	ACTEDISTIC
		I	SUPPLI FUNE PRESSU	INL CHAN	MCIERISIIC
		I	Rated speed rpm	: 220	na
LOAD-DEPENDENT ST	ADT OF DE	TVERY I	Supply pomp	. 220	, o
SETTING	ARI OF DE	I	pressure bar		8.5
SELLTING		T	Tolerance bar +-		0.3
NEL THENY DIFFEREN	c =	Ţ	Shutoff solenoid	•	0.5
DELIVERY DIFFEREN		T			
			Val+		10
Onderd second second		, <u> </u>	Volt	:	12
Rated speed rpm		†		:	
Del. quantity	: 1250	+	Rated speed rpm	: : 50	
Del. quantity cm3/1000 strokes	: 1250) o	Rated speed rpm Supply pomp		00
Del. quantity cm3/1000 strokes Tolerance	: 1250 : -6	0	Rated speed rpm Supply pomp pressure bar	:	3.6
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +-	: 1250 : -6	+	Rated speed rpm Supply pomp pressure bar Tolerance bar +-	:	00
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid	: 1250 : -6 : 1	.0	Rated speed rpm Supply pomp pressure bar Tolerance bar +- Shutoff solenoid	:	3.6 0.3
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +-	: 1250 : -6 : 1	0	Rated speed rpm Supply pomp pressure bar Tolerance bar +-	:	3.6
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutofi solenoid Volt	: 1250 : -6 : 1	.0	Rated speed rpm Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt	:	3.6 0.3
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid	: 1250 : -6 : 1	.0	Rated speed rpm Supply pomp pressure bar Tolerance bar +- Shutoff solenoid	:	3.6 0.3
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt	: 1250 : -6 : 1 :	.0	Rated speed rpm Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt OVERFLOW QUANTITY	•	3.6 0.3 12
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutofr solenoid Volt PRESSURE DIFFERENCE Rated speed rpm	: 1250 : -6 : 1 :	.0	Rated speed rpm Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt OVERFLOW QUANTITY Rated speed rpm	•	3.6 0.3 12
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt PRESSURE DIFFERENCE Rated speed rpm Del. quantity	: 1250 : -6 : 1 : CE : 1250	.0	Rated speed rpm Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt OVERFLOW QUANTITY Rated speed rpm Overflow quantity	: : :	3.6 0.3 12
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt PRESSURE DIFFERENCE Rated speed rpm Del. quantity cm3/1000 strokes	: 1250 : -6 : 1 : CE : 1250	.0	Rated speed rpm Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt OVERFLOW QUANTITY Rated speed rpm Overflow quantity ccm/10s	: : :	3.6 0.3 12
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt PRESSURE DIFFERENCE Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 1250 : -6 : 1 : CE : 1250 : -0	.0	Rated speed rpm Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt OVERFLOW QUANTITY Rated speed rpm Overflow quantity ccm/10s Tolerance	: : : 220	3.6 0.3 12 00 07.2
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt PRESSURE DIFFERENCE Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +-	: 1250 : -6 : 1 : CE : 1250 : -0	.0	Rated speed rpm Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt OVERFLOW QUANTITY Rated speed rpm Overflow quantity ccm/10s	: : : 220	3.6 0.3 12
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt PRESSURE DIFFERENCE Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid	: 1250 : -6 : 1 : CE : 1250 : -0	1.2	Rated speed rpm Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt OVERFLOW QUANTITY Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s +-	: : : 220	3.6 0.3 12 00 07.2
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt PRESSURE DIFFERENCE Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +-	: 1250 : -6 : 1 : CE : 1250 : -0	.0	Rated speed rpm Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt OVERFLOW QUANTITY Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s +- Chack tolerance	: 220 : 9	3.6 0.3 12 00 07.2
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt PRESSURE DIFFERENCE Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt	: 1250 : -6 : 1 : CE : 1250 : -0 : 0	1.2 1.1 1.2	Rated speed rpm Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt OVERFLOW QUANTITY Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s +- Chack tolerance ccm/10s +-	: 220 : 9	3.6 0.3 12 00 07.2
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt PRESSURE DIFFERENCE Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid	: 1250 : -6 : 1 : CE : 1250 : -0 : 0	1.2 1.1 1.2	Rated speed rpm Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt OVERFLOW QUANTITY Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid	: 220 : 9 : 4	200 3.6 0.3 12 200 27.2 31.6
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt PRESSURE DIFFERENCE Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt TIMING-DEVICE TRAY	: 1250 : -6 : 1 : CE : 1250 : -0 : 0 : VEL DIFFE	0 0 2 1 2 1	Rated speed rpm Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt OVERFLOW QUANTITY Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s +- Chack tolerance ccm/10s +-	: 220 : 9	3.6 0.3 12 00 07.2
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt PRESSURE DIFFERENCE Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt	: 1250 : -6 : 1 : CE : 1250 : -0 : 0	0 0 2 1 2 1	Rated speed rpm Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt OVERFLOW QUANTITY Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid Volt	: 220 : 9 : 4	3.6 0.3 12 00 07.2 1.6 55.5
Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt PRESSURE DIFFERENCE Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 str. +- Shutoff solenoid Volt TIMING-DEVICE TRAY	: 1250 : -6 : 1 : CE : 1250 : -0 : 0 : VEL DIFFE	0 0 2 1 2 1	Rated speed rpm Supply pomp pressure bar Tolerance bar +- Shutoff solenoid Volt OVERFLOW QUANTITY Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s +- Check tolerance ccm/10s +- Shutoff solenoid	: 220 : 9 : 4	3.6 0.3 12 00 07.2 1.6 55.5

Overflow quantity ccm/10s : 63.8	+ Shutoff solenoid + Volt : 12
Tolerance ccm/10s +-: 22.2	+ Rated speed rpm : 1250
Check tolerance	+ Del. quantity + cm3/1000 strokes : 30.2
ccm/10s + : 34.7 Shutoff solenoid	+ Tolerance + cm3/1000 str. +-: 0.5
Volt : 12	+ Check tolerance + cm3/1000s. ++: 2.2
DELIVERY AND BREAKAWAY CHARACTERISTIC	+ Shutoff solenoid + Volt : 12
Rated speed rpm : 2650 Del. quantity	‡
cm3/1000 strokes : 11.0 Tolerance	ELECTR. SHUTOFF
cm3/i000 str. +-: 2.0 Check tolerance	+ CONTROL LEVER, IDLE STOP
cm3/1000s. \leftarrow : 4.0 Shutoff solenoid	+ Rated speed rpm : 400 + Del. quantity
Volt : 12	cm3/1000 strokes : 1.5 Tolerance
Rated speed rpm : 2500 Del. quantity	+ cm3/1000 str. + : 1.5 - Check tolerance
cm3/1000 strokes : 22.5 Tolerance	+ cm3/1000s. +-: 1.5
cm3/1000 str. +: 3.0 Check tolerance	+ FULL-LOAD STOP CONTROL LEVER
cm3/1000s. + : 5.0 Shutoff solenoid	+ Rated speed rpm : 400 - Del. quantity
Volt : 12	- cm3/1000 strokes : 1.5 Tolerance
Rated speed rpm : 2900 Del. quantity cm3/1000 strokes : 3.0	+ cm3/1000 str. + : 1.5 + Check tolerance + cm3/1000s. + : 1.5
<pre>cm3/1000 strokes : 3.0 Tolerance cm3/1000 str. +-: 3.0</pre>	+ cm3/1000s. +-: 1.5
Check tolerance cm3/1000s. +-: 3.0	-
Shutoff solenoid Volt : 12	
Rated speed rpm : 2200	CHECKING LOAD-DEPENDENT START OF DELIVERY
Del. quantity cm3/1000 strokes : 33.0	DELIVERY DIFFERENCE
Tolerance cm3/1000 str. +-: 1.0	Rated speed rpm : 1250
Check tolerance cm3/1000s. +-: 2.2	- Del. quantity - cm3/1000 strokes : -8.5
Shutoff solenoid Volt : 12	Tolerance + cm3/1000 str. +-: 5.0
Rated speed rpm : 500	Check tolerance + : 5.0
Del. quantity cm3/1000 strokes : 31.3	+ Shutoff solenoid + Volt : 12
Tolerance cm3/1000 str. +-: 1.5	TIMING-DEVICE TRAVEL DIFFERENCE
Check tolerance cm3/1000s. + : 3.0	Rated speed rpm : 1250
	+

Del. quantity cm3/1000 strokes	:	-1.0	
Tolerance cm3/1000 str. +-	:	0.1	
Check tolerense cm3/1000s. +-	:	0.1	
Shutoff solenoid Volï	:	12	
DELIVERY DIFFEREN	CE		
Rated speed rpm	:	1250	
Del. quantity cm3/1000 strokes	:	5.0	
Tolerance cm3/1000 str. +-	:	3.0	
Check tolerance cm3/1000s. +-	:	3.0	
Shutoff solenoid Volt	:	12	
PRESSURE DIFFEREN	CE		
Rated speed rpm Supply pomp	:	1250	
pressure bar Tolerance bar +-	:	-1.5 0.3	
Shutoff solenoid Volt	•	12	
TIMING-DEVICE TRA	· VEI	•	
ITHING-DEVICE INA	VEL	DIFFERENCE	
Rated speed rpm Tolerance mm +	:	1250 0.5	
Check tolerance mm +	:	0.6	
Shutoff solenoid Volt	:	12	
EXHAUST-GAS RECIR	CLU	ATTON	
Rated speed rpm Tolerance			
cm3/1000 str. +- Check tolerance	:	1.0	
cm3/1000s. +- Shutoff solenoid	:	4.0	
Volt	:	12	
START TRANSITION			
Rated speed rpm Del. quantity	:	350	
cm3/1000 strokes Tolerance	:	30.0	
cm3/1000 str. +- Shutoff solenoid	:	10.0	
Volt	:	12	

Rated speed rpm : 225
Del. quantity
cm3/1000 strokes : 54.0
Tolerance
cm3/1000 str. +-: 17.0
Shutoff solenoid
Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7
Tolerance mm + : 0,1
Dimension KF mm : 6,0
Tolerance mm + : 0,2
Dimension MS mm : 1,4
Tolerance mm + : 0,1

Rated speed rpm : 1250 BOSCH INJ. PUMP TEST SPECIFICATIONS Setting mm 3.6 Note remarks Tolerance mm 0.2 Shutoff solenoid Refer to Service Info for test and Volt 12 adjustment instructions. See microcard(s) W400/... SUPPLY PUMP PRESSURE Edition : 31,03,92 Rated speed rpm : 1250 Test oil : ISO 4113 Supply pomp pressure bar 6.5 : 0 460 484 055 Tolerance bar +-: Part no. 0.3 Pump designation: VE4/8F2300R425-2 Shutoff solenoid Volt 12 Customer-spec. information FULL-LOAD DELIV. WITHOUT BOOST PRESSURE Customer : PSA : XUD9A-N2 BVA Motor Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 30.2 TEST BENCH REQUIREMENTS Tolerance cm3/1000 str. +-: 0.5 Spread cm3/1000 strokes : Inlet press. bar : 2.0 0.35 Tolerance bar +-: Shutoff solenoid Volt 12 Test nozzle holde : 1 688 901 022 assembly HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING Opening pressure Rated speed rpm 500 Tolerance bar + : Del. quantity cm3/1000 strokes : 3.0 Tolerance : 1 680 750 073 cm3/1000 str. + :Test Lines 0.5 Shutoff solenoid Outside diameter : 6.00 12 Volt x inside diameter : IDLE DELIVERY 2.00 x length mm 450 Rated speed rpm : 375 Del. quantity cm3/1000 strokes : REMARKS 7.5 Tolerance cm3/1000 str. + :1.0 Spread BEGINNING OF DELIVERY cm3/1000 strokes : 2.0 Shutoff solenoid Start of delivery blocking Volt 12 Plunger stroke mm: 0,3 HIGH IDLE SETTING : A Outlet Rated speed rpm 475 Del. quantity cm3/1000 strokes : INJECTION PUMP SETTING VALUES 9.5 Tolerance cm3/1000 str. +-: TIMING DEVICE TRAVEL 1.0

Shutoff solenoid Yolt : 12	TIMING DEVICE CHARACTERISTIC
FULL-LOAD SPEED REGULATION	Rated speed rpm : 2000
Rated speed rpm : 2650 Del. quantity cm3/1000 strokes : 11.0	SV travel mm : 7.9 Tolerance mm +: 0.4 Check
Tolerance cm3/1000 str. +-: 2.0 Shutoff solenoid	tolerance mm +: 0.7 Shutoff solenoid Volt : 12
Volt : 12	Rated speed rpm : 800
STARTING FUEL DELIVERY	+ SV travel mm : 1.4
Rated speed rpm : 100 Del. quantity	Tolerance mm +: 0.4
cm3/1000 strokes : 55.0 Tolerance	tolerance mm +-: 0.7 Shutoff solenoid
cm3/1000 str. +-: 13.0 Shutoff solenoid	+ Volt : 12
Volt : 12	SUPPLY PUMP PRESSURE CHARACTERISTIC
	Rated speed rpm : 2200 Supply pomp
LOAD-DEPENDENT START OF DELIVERY	+ pressure bar : 8.8
SETTING	+ Tolerance bar + : 0.3 + Shutoff solenoid
DELIVERY DIFFERENCE	Volt : 12
Rated speed rpm : 1250 Del. quantity	Rated speed rpm : 500 Supply pomp
cm3/1000 strokes : -7.5	+ pressure bar : 4.7
Tolerance cm3/1000 str. +-: 1.0	+ Tolerance bar + : 0.3 + Shutoff solenoid
Shutoff solenoid	Volt : 12
Volt : 12	+
PRESSURE DIFFERENCE	+ OVERFLOW QUANTITY
Rated speed rpm : 1250	+ Rated speed rpm : 2200 + Overflow quantity
Del. quantity cm3/1000 strokes : -0.2	+ ccm/10s : 97.2 + Tolerance
Tolerance cm3/1000 str. +-: 0.1	+ ccm/10s + : 41.6
Shutoff solenoid Volt : 12	Check tolerance ccm/10s + : 55.5
TIMING-DEVICE TRAVEL DIFFERENCE	+ Shutoff solenoid + Volt : 12
	+
Rated speed rpm : 1250 Del. quantity	Rated speed rpm : 500 Overflow quantity
cm3/1000 strokes : -1.0 Tolerance	+ ccm/10s : 62.5 + Tolerance
cm3/1000 str. +-: 0.1 Shutoff solenoid	+ ccm/10s +-: 20.8
Volt : 12	Check tolerance ccm/10s + : 34.7 Shutoff solenoid
INJECTION-PUMP TEST SPECIFICATIONS	Volt : 12

DELIVERY AND BREAKAWAY CHARACTERISTIC	Shutoff solenoid Volt : 12
Rated speed rpm : 2650	
Del. quantity	MECHANICAL SHUTOFF
cm3/1000 strokes : 11.0	
Tolerance +	Rated speed rpm : 2200
cm3/1000 str. +-: 2.0	Del. quantity
Check tolerance	cm3/1000 strokes : 1.5
cm3/1000s. +: 4.0	Tolerance
Shutoff solenoid + 12 + 12	cm3/1000 str. +: 1.5
Volt : 12 +	Check tolerance cm3/1000s.
Rated speed rpm : 2500	Shutoff solenoid
Del. quantity	Volt : 12
cm3/1000 strokes : 22.5	
Tolerance	
cm3/1000 str. + : 3.0	ELECTR. SHUTOFF
Check tolerance	CONTROL LEVER, IDLE STOP
cm3/1000s. +: 5.0	5 · · · · · · · · · · · · · · · · · · ·
Shutoff solenoid	Rated speed rpm : 375
Volt : 12	Del. quantity cm3/1000 strokes : 1.5
Rated speed rpm : 2900	Tolerance
Del. quantity	cm3/1000 str. +-: 1.5
cm3/1000 strokes : 3.0	Check tolerance
Tolerance	cm3/1000s. +-: 1.5
cm3/1000 str. +-: 3.0	
Check tolerance	
cm3/1000s. +-: 3.0 +	
Chr. A = EE = = 1 = = 2 = 1	
Shutoff solenoid +	
Volt : 12	
Volt : 12	
Volt : 12 Rated speed rpm : 2200	CHECKING LOAD-DEPENDENT
Volt : 12	CHECKING LOAD-DEPENDENT START OF DELIVERY
Volt : 12 Rated speed rpm : 2200 Del. quantity	CHECKING LOAD-DEPENDENT START OF DELIVERY
Volt : 12 Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000 str. +-: 1.0	
Volt : 12 Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000 str. +-: 1.0 Check tolerance	START OF DELIVERY DELIVERY DIFFERENCE
Volt : 12 Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000 str. + : 1.0 Check tolerance cm3/1000s. + : 2.2	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250
Volt : 12 Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000 str. + : 1.0 Check tolerance cm3/1000s. + : 2.2 Shutoff solenoid	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity
Volt : 12 Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000 str. + : 1.0 Check tolerance cm3/1000s. + : 2.2	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5
Volt : 12 Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000 str. +-: 1.0 Check tolerance cm3/1000s. +-: 2.2 Shutoff solenoid Volt : 12	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance
Volt : 12 Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000 str. +-: 1.0 Check tolerance cm3/1000s. +-: 2.2 Shutoff solenoid Volt : 12 Rated speed rpm : 500	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. + : 5.0
Volt : 12 Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000 str. +-: 1.0 Check tolerance cm3/1000s. +-: 2.2 Shutoff solenoid Volt : 12	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance
Volt : 12 Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000 str. + : 1.0 Check tolerance cm3/1000s. + : 2.2 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 31.3 Tolerance	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. + : 5.0 Check tolerance cm3/1000s. + : 5.0 Shutoff solenoid
<pre>Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000 str. + : 1.0 Check tolerance cm3/1000s. + : 2.2 Shutoff solenoid Volt : 12</pre> Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 31.3 Tolerance cm3/1000 str. + : 1.5	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. +-: 5.0 Check tolerance cm3/1000s. +-: 5.0
Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000s tr. +: 1.0 Check tolerance cm3/1000s. +: 2.2 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 31.3 Tolerance cm3/1000 str. +: 1.5 Check tolerance	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. + : 5.0 Check tolerance cm3/1000s. + : 5.0 Shutoff solenoid Volt : 12
<pre>Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000str. + : 1.0 Check tolerance cm3/1000s. + : 2.2 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 31.3 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 3.0</pre>	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. + : 5.0 Check tolerance cm3/1000s. + : 5.0 Shutoff solenoid
Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000s tr. +: 1.0 Check tolerance cm3/1000s. +: 2.2 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 31.3 Tolerance cm3/1000 str. +: 1.5 Check tolerance cm3/1000s. +: 3.0 Shutoff solenoid	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. +-: 5.0 Check tolerance cm3/1000s. +-: 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE
<pre>Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000str. + : 1.0 Check tolerance cm3/1000s. + : 2.2 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 31.3 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 3.0</pre>	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. + : 5.0 Check tolerance cm3/1000s. + : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250
<pre>Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000 str. +-: 1.0 Check tolerance cm3/1000s. +-: 2.2 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 31.3 Tolerance cm3/1000 str. +-: 1.5 Check tolerance cm3/1000s. +-: 3.0 Shutoff solenoid Volt : 12</pre>	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. + : 5.0 Check tolerance cm3/1000s. + : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Del. quantity
Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000 str. + : 1.0 Check tolerance cm3/1000s. + : 2.2 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 31.3 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1250 Del. quantity	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. + : 5.0 Check tolerance cm3/1000s. + : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250
Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000 str. + : 1.0 Check tolerance cm3/1000s. + : 2.2 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 31.3 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 30.2	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. +-: 5.0 Check tolerance cm3/1000s. +-: 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -1.0 Tolerance cm3/1000 str. +-: 0.1
Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000 str. + : 1.0 Check tolerance cm3/1000s. + : 2.2 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 31.3 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 30.2 Tolerance	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. + : 5.0 Check tolerance cm3/1000s. + : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -1.0 Tolerance cm3/1000 str. + : 0.1 Check tolerance
Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1909 str. + : 1.0 Check tolerance cm3/1000s. + : 2.2 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 31.3 Tolerance cm3/1000 strokes : 31.3 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 30.2 Tolerance cm3/1000 strokes : 30.2 Tolerance cm3/1000 str. + : 0.5	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. +-: 5.0 Check tolerance cm3/1000s. +-: 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -1.0 Tolerance cm3/1000 str. +-: 0.1 Check tolerance cm3/1000s. +-: 0.1
Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000 str. + : 1.0 Check tolerance cm3/1000s. + : 2.2 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 31.3 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 30.2 Tolerance	START OF DELIVERY DELIVERY DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -11.5 Tolerance cm3/1000 str. + : 5.0 Check tolerance cm3/1000s. + : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -1.0 Tolerance cm3/1000 str. + : 0.1 Check tolerance

DELIVERY DIFFERENCE

Rated speed rpm : 1250 Del. quantity

cm3/1000 strokes :

5.0

Tolerance

3.0

cm3/1000 str. +-: Check tolerance

cm3/1000S.

3.0

Shutoff solenoid Volt

12

PRESSURE DIFFERENCE

Rated speed rpm : 1250

Supply pomp

pressure bar Tolerance bar + : -1.10.3

0.5

Shutoff solenoid Volt

12

TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm :

Tolerance mm +:

Check 0.6

tolerance mm - -:

Shutoff solenoid

12 Volt

START TRANSITION

Rated speed rpm 350

Del. quantity

cm3/1000 strokes : 30.0

Tolerence

cm3/1000 str. \leftarrow : 10.0

Shutoff solenoid

12 Volt

Rated speed rpm 225

Del. quantity

cm3/1000 strokes : 54.0

Tolerance

cm3/1000 str. + : 17.0

Shutoff solenoid

12 Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm

+: 0,1 Tolerance mm

Dimension KF mm : 6,0

Tolerance mm -:0,2

Dimension MS mm : 1,4

+: 0,2 Tolerance mm

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.07.96 Test oil : ISO 4113

Part no. : 0 460 424 098 Pump designation : VE4/12F1175R533

Customer-spec. information

Customer : MWM

Motor : TD 226-B4 Power KW : 70.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C +-: 1

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35
Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 110

Opening pressure

bar : 250 Tolerance bar +- : 3

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside dimmeter: 2.00 x length mm : 840

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 800

Setting mm : 4.4
Tolerance mm +-: 0.2
Shutoff solenoid
Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 800

Supply pomp

pressure bar : 7.2
Tolerance bar + : 0.3
Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 800 Del. quantity

cm3/1000 strokes : 77.3

Tolerance

cm3/1000 str. ←: 0.5

Spread

cm3/1000 strokes : 4.0

Shutoff solenoid

Volt : 12

IDLE SETTING

Rated speed rpm : 275

Del. quantity

cm3/1000 strokes : 10.0

Tolerance

cm3/1000 str. + : 3.0

Shutoff solenoid

Volt : 12

Spread

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 6.5

FULL-LOAD SPEED REGULATION

Rated speed rpm : 1175

Del. quantity

cm3/1000 strokes : 53.0

Tolerance

cm3/1000 str. +-: 3.0

Shutoff solenoid

Voit : 12

SET GRADUATED STARTING DELIVERY CONTROL LEVER, IDLE STOP

	+	Shutoff solenoid	
Rated speed rpm :	100	Volt :	12
Del. quantity cm3/1000 strokes :	100.0	Rated speed rpm :	400
Tolerance	1	Overflow quantity	-
cm3/1000 str. + : Shutoff solenoid	1.0	ccm/10s : Tolerance	125.0
Volt :	12	ccm/10s +-:	22.2
	+		
		<pre>Check tolerance ccm/10s +=:</pre>	22.2
		Shutoff solenoid	
INJECTION-PUMP TEST S	PECIFICATIONS	· Volt :	12
TIMING DEVICE CHARACT	ERISTIC	DELIVERY AND BREAKA	WAY CHARACTERISTIC
Rated speed rpm :	900	Rated speed rpm : Del. quantity	1175
SV travel mm :	5.2	cm3/1000 strokes :	53.0
Tolerance mm +:	0.4	Tolerance	7.0
Check tolerance mm - 3 :	0.7	cm3/1000 str. +-: Check tolerance	3.0
Shutoff solenoid	1	cm3/1000s. $+-:$	8.5
Volt :	12	Shutoff solenoid Volt :	12
Rated speed rpm :	500		
Cli page al m	2.1		1250
SV travel mm : : : : : : : : : : : : : : : : : :	2.1	Del. quantity cm3/1000 strokes :	7.5
Check	+	Check tolerance	
tolerance mm +:	0.7	cm3/1000s. +:	7.5
Shutoff solenoid Volt :	12	Shutoff solenoid Volt :	12
	+	•	A == -
SUPPLY PUMP PRESSURE	CHARACTERISTIC	Rated speed rpm : Del. quantity	1300
Rated speed rpm :	1100	cm3/1000 strokes :	1.5
Supply pomp		Tolerance	
pressure bar : : : : : : : : : : : : : : : : : : :	7.9 0.3	cm3/1000 str. + : Check tolerance	1.5
Shutoff solenoid	1.5	cm3/1000s. + :	1.5
Volt :	12	Shutoff solenoid	42
Rated speed rpm :	500	Volt :	12
Supply pomp	+	Rated speed rpm :	1200
pressure bar : : : : : : : : : : : : : : : : : : :	5.7 0.3	Del. quantity cm3/1000 strokes :	30.0
Shutoff solenoid	1.3	Tolerance	30.0
Volt :	12	cm3/1000 str. +-: Check tolerance	20.0
OVERFLOW QUANTITY	1	cm3/1000s. + : Shutoff solenoid	20.0
Rated speed rpm :	1100	Volt :	12
Overflow quantity ccm/10s :	152.7	Rated speed rpm :	1100
Tolerance	136.1	Del. quantity	1100
ccm/10s +:	41.6	cm3/1000 strokes :	72.5
Check tolerance	1	Tolerance cm3/1000 str. + :	1.5
ccm/10s +-:	41.6		1.2

Check tolerance		→ Tolerance
cm3/1000s. +-	: 3.0	- cm3/1000 str. +-: 1.5
	. 5.0	
Shutoff solenoid		+ Check tolerance
Volt	: 12	+ cm3/1000s. + : 1.5
		+ Spread
Rated speed rpm	: 600	+ cm3/1000 strokes : 5.0
Del. quantity		
cm3/1000 strokes	: 76.0	FULL-LOAD STOP CONTROL LEVER
	. 70.0	T FOLL-LOAD STOP CONTROL LEVER
Tolerance	7.0	†
cm3/1000 str. $+$	3.0	+ Rated speed rpm : 275
Check tolerance		+ Del. quantity
cm3/1000s. +-	5.5	+ cm3/1000 strokes : 1.5
Shutoff solenoid		+ Tolerance
Volt	: 12	+ cm3/1000 str. + : 1.5
VOCC	• 'L	Spread
Ostad assed was	. /00	
Rated speed rpm	: 400	+ cm3/1000 strokes : 5.0
Del. quantity		+ Check tolerance
cm3/1000 strokes	: 70.0	+ cm3/1000s. + : 1.5
Tolerance		+ Spread
cm3/1000 str. +-	: 3.0	+ cm3/1000 strokes : 5.0
Check tolerance	- •	1
cm3/100Cs	4.0	I IDLE DELIVERY
	4.0	T TOLE DELIVERY
Shutoff solenoid	4.0	
Volt	: 12	+ Rated speed rpm : 350
		+ Del. quantity
Rated speed rpm	: 800	+ cm3/1000 strokes : 1.5
Del. quantity		+ Tolerance
cm3/1000 strokes	: 77.3	+ cm3/1000 str. $+$: 1.5
Tolerance		+ Check tolerance
cm3/1000 str. +-	: 0.5	+ cm3/1000s. +: 1.5
Check tolerance	• 6.9	+ Shutoff solenoid
	: 2.5	
cm3/1000s. +-	2.3	+ Volt : 12
Shutoff solenoid	40	†
Volt	: 12	†
		+
		+
MECHANICAL SHUTOF	F	+
		+
Rated speed rom	: 1100	+ START TRANSITION
Del. quantity		
cm3/1000 strokes	: 1.5	Rated speed rpm : 250
	• 1.5	
Tolerance	4 5	+ Del. quantity
cm3/1000 str. +-	: 1.5	+ cm3/1000 strokes : 75.0
Spread		+ Tolerance
cm3/1000 strokes	: 5.0	+ cm3/1000 str. $+$: 15.0
Check tolerance		+ Shutoff solenoid
cm3/1000s. +-	: 1.5	+ Volt : 12
Spread	•	
cm3/1000 strokes	: 5.0	
Shutoff solenoid	• 2.0	Rated speed rpm : 150
	40	
Volt	: 12	- Del. quantity
		+ cm3/1000 strokes : 120.0
		+ Tolerance
ELECTR. SHUTOFF		+ cm3/1000 str. $+$: 20.0
CONTROL LEVER, ID	LE STOP	+ Shutoff solenoid
		+ Volt : 12
Rated speed rpm	: 275	1
	. 213	
Del. quantity cm3/1000 strokes		ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm	:	3,6
Tolerance mm +	:	0,1
Dimension KF mm	:	6,4
Tolerance mm +	:	0,2
MS1 dimension mm	:	1,3
Tolerance mm +-	:	0,2
SVS dimension mm	:	1,7

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 13.08.96 Edition Test oil : ISO 4113

Part no. : 3 282 816

Pump designation: VE6/12F1100R373-5B

Customer-spec. information

Customer : CDC

: 6 BT 5.9 IND. Motor

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

0.55restriction mm

Ü.35 Inlet press. bar :

Tolerance bar + : 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 bar Tolerance bar + :

Test lines : 1 680 750 000

Outside diameter : 6,00

x inside diameter : 2.00

x length mm 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,85

Tolerance mm +: 0.02(0.06)

: D Outlet

Prestroke

(as of UT) mm : 0,3 **+-** : 0,02 Tolerance mm

Check

tolerance mm +-: 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 750

Aneroid pressure

1000 hPa

Setting mm 1.5 Tolerance mm +-: 0.2

Shutoff solenoid

Volt 24

SUPPLY PUMP PRESSURE

Rated speed rpm 750

Aneroid pressure

hPa 1000

Supply pomp

3.5 pressure bar Tolerance bar ←: 0.3

Shutoff solenoid

24 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 750

Aneroid pressure

hPa 1000

Del. quantity

cm3/1000 strokes : 81.5

Tolerance

0.5 cm3/1000 str. +-:

Spread

4.0 cm3/1000 strokes :

Check tolerance

cm3/1000s.

Shutoff solenoid

Volt 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

4.5

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 66.5

Tolerance

cm3/1000 str. \leftarrow : 0.5

Spread	† Tolerance mm +-: 0.4
cm3/1000 strokes : 9.0	+ Check
Shutoff solenoid	+ tolerance mm $+$: 0.7
Volt : 24	+ Shutoff solenoid
Check tolerance	↓ Volt : 24
cm3/1000s, : 9.0	
Check tolerance	Rated speed rpm : 600
cm3/1000s. : 4.5	Aneroid pressure
they 10003 4.3	+ hPa : 1000
IN E CETTING	† 11ra : 1000
IDLE SETTING	† OV 4 2001
noted and a rego	+ SV travel mm : 0.8
Rated speed rpm : 530	+ Tolerance mm + : 0.4
Del. quantity	+ Check
cm3/1000 strokes : 8.5	+ tolerance mm + : 0.7
Tolerance	+ Shutoff solenoid
cm3/1000 str. +-: 2.0	+ Volt : 24
Shutoff solenoid	+
Volt : 24	SUPPLY PUMP PRESSURE CHARACTERISTIC
Spread	+
cm3/1000 strokes : 5.5	Rated speed rpm : 1100
Check tolerance	+ Aneroid pressure
cm3/1000s. : 7.0	+ hPa : 1000
	Supply pomp
	pressure bar : 5.0
	Tolerance bar +: 0.3
FILL LOAD OPER DECLUATION	+ Shutoff solenoid
FULL-LOAD SPEED REGULATION	+ Volt : 24
5	† <u></u>
Rated speed rpm : 1185	+ Rated speed rpm : 600
Pressure hPa : 1000	+ Aneroid pressure
Del. quantity	+ hPa : 1000
cm3/1000 strokes : 67.5	+ Supply pomp
Tolerance	pressure bar : 2.9
cm3/1000 str. + : 3.0	† Tolerance bar +-: 0.3
Shutoff solenoid	+ Shutoff solenoid
Volt : 24	+ Volt : 24
STARTING FUEL DELIVERY	+ OVERFLOW QUANTITY
>1/1/11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Rated speed rpm : 100	Rated speed rpm : 1150
Del. quantity	Aneroid pressure
cm3/1000 strokes : 110.0	hPa : 1000
Tolerance	1
cm3/1000 str. ←: 30.0	+ Overflow quantity + ccm/10s : 97.2
Shutoff solenoid	+ Tolerance
Volt : 24	+ ccm/10s +-: 41.6
	† ~
	+ Check tolerance
	+
	Shutoff solenoid
	Volt : 24
INJECTION-PUMP TEST SPECIFICATIONS	+ Volt : 24
INJECTION-PUMP TEST SPECIFICATIONS	Volt : 24 Rated speed rpm : 500
INJECTION-PUMP TEST SPECIFICATIONS TIMING DEVICE CHARACTERISTIC	Volt : 24 Rated speed rpm : 500
	+ Volt : 24
TIMING DEVICE CHARACTERISTIC	Volt : 24 Rated speed rpm : 500 Overflow quantity
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1100	Rated speed rpm : 500 Overflow quantity ccm/10s : 62.5 Tolerance
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1100 Aneroid pressure	Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 62.5
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1100	Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 62.5 Folerance ccm/10s +- : 20.8
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1100 Aneroid pressure	Rated speed rpm : 500 Overflow quantity ccm/10s : 62.5 Tolerance

01		A state to be a second
Shutoff solenoid	. 2/	+ Check tolerance
Volt	: 24	+ cm3/1000s. + : 3.0
		+ Shutoff solenoid
DELIVERY AND BREAK	KAWAY CHARACTERISTIC	+ Volt : 24
	4400	†
Rated speed rpm	: 1185	+ Rated speed rpm : 500
Aneroid pressure		+ Aneroid pressure
hP a	: 1000	+ hPa : 1000
Del. quantity		† Del. quantity
cm3/1000 strokes	: 67.5	+ cm3/1000 strokes : 85.5
Tolerance		+ Tolerance
cm3/1000 str. +-	: 3.0	$+ \frac{\text{cm}3}{1000} \text{ str.} + : 4.0$
Check tolerance		+ Shutoff solenoid
cm3/1000s. +-	: 6.0	+ Volt : 24
Shutoff solenoid		1
Volt	: 24	Rated speed rpm : 750
VOCC		Aneroid pressure
Ontad amond ann	: 1260	+ hPa : 1000
Rated speed rpm	. 1200	
Aneroid pressure	. 1000	Del. quantity
hPa	: 1000	- cm3/1000 strokes : 81.5
Del. quantity	4 5	+ Tolerance
cm3/1000 strokes	: 1.5	$+ \frac{\sin 3}{1000} \text{ str. } + : 0.5$
Tolerance		+ Check tolerance
cm3/1000 str. +	: 1.5	+ cm3/1000s. + + : 3.0
Check tolerance		+ Shutoff solenoid
cm3/1000s. +-	: 1.5	+ Volt : 24
Shutoff solenoid		}
Volt	: 24	
		+ MECHANICAL SHUTOFF
Rated speed rpm	: 700	+
Aneroid pressure		Rated speed rpm : 1100
hPa	: 400	+ Aneroid pressure
Del. quantity	,,,,,	hPa : 1000
cm3/1000 strokes	: 76.5	+ Del. quantity
Tolerance		- cm3/1000 strokes : 1.5
cm3/1000 str. +	: 0.5	Tolerance
Check tolerance	. 0.3	cm3/1000 str. +-: 1.5
	: 4.5	
	• 4.5	- Check tolerance
Shutoff solenoid	. 2/	- cm3/1000s. +-: 1.5
Volt	: 24	+ Shutoff solenoid
	4450	† Volt : 24
Rated speed rpm	: 1150	†
Aneroid pressure	4000	
hPa	: 1000	+ ELECTR. SHUTOFF
Del. quantity		+ CONTROL LEVER, IDLE STOP
cm3/1000 strokes	: 67.5	+
Tolerance		+ Rated speed rpm : 530
cm3/1000 str. +	: 1.5	+ Del. quantity
Check tolerance		+ cm3/1000 strokes : 1.5
cm3/1000s. +-	: 3.0	+ Tolerance
Shutoff solenoid		+ cm3/1000 str. +-: 1.5
Volt	: 24	Check tolerance
	- · ·	+ cm3/1000s. +-: 1.5
Rated speed rpm	: 900	1
Aneroid pressure	- -	FULL-LOAD STOP CONTROL LEVER
hPa	4000	1
	: 1000	•
	: 1000	+ Rated speed rom : 530
Del. quantity		Rated speed rpm : 530
Del. quantity cm3/1000 strokes		+ Del. quantity
Del. quantity	: 82.5	

Tolerance cm3/1000 str. +-: 1.5 Check tolerance cm3/1000s. 1.5 IDLE DELIVERY Rated speed rpm 500 Del. quantity cm3/1000 strokes : 2.0 Tolerance cm3/1000 str. + : 2.0 Check tolerance cm2/1000s. 2.0 Shutoff solenoid Volt 24 START TRANSITION Rated speed rpm : 440 Del. quantity 65.0 cm3/1000 strokes : Tolerance cm3/1000 str. +-:15.0 Shutoff solenoid Volt 24 Rated speed rpm 280 Del. guantity 110.0 cm3/1000 strokes : Tolerance cm3/1000 str. + : 30.0 Shutoff solenoid Volt 24 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension KF mm : 5,2 Tolerance mm Dimension MS mm : 1,2 Tolerance mm +: 0,2 SVS dimension mm : 2,0 CONTROL LEVER POSITION SET

: 34,8..38,8

Control lever position YB mm : 42,0..47,6

End of test-specification sheet

Control lever

position YA mm

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.08.96 Test oil : ISO 4113

Part no. : 3 919 004

Pump designation : VE6/12F1150R373-50

Customer—spec. information Customer : CDC

Motor : 6 BT 5.9 IND.

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C +- : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar +-: 0.05

Test nozzle holde

assembly : 1 688 901 027

Opening pressure

bar : 250 Tolerance bar + : 3

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,85

Tolerance mm +: 0.02(0.06)

Outlet : D

Prestroke

(as of UT) mm : 0.3Tolerance mm +-: 0.02

Check

tolerance mm + : 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 750

Aneroid pressure hPa : 1000

ira : 1000

Setting mm : 1.5 Tolerance mm + : 0.2

Shutoff solenoid

Volt : 24

SUPPLY PUMP PRESSURE

Rated speed rpm : 750

Aneroid pressure

hPa : 1000

Supply pomp

pressure bar : 3.5 Tolerance bar + : 0.3

Tolerance bar +-: C Shutoff solenoid

Volt : 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 750

Aneroid pressure

hPa : 1000

Del. quantity

cm3/1000 strokes : 81.5

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 4.5

Shutoff solenoid

Volt : 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes :

66.5

Tolerance

cm3/1000 str. + :

0.5

Spread		I Tolonomeo po to 0 /
cm3/1000 strokes	: 9.0	† Tolerance mm +-: 0.4 + Check
Shutoff solenoid	. 7.0	tolerance mm + : 0.7
Volt	: 24	+ Shutoff solenoid
Check tolerance		+ Volt : 24
cm3/1000s.	: 9.0	. 24
Check tolerance	, , ,	Rated speed rpm : 600
cm3/1000s.	: 4.5	+ Aneroid pressure
		hPa : 1000
IDLE SETTING		1
		+ SV travel mm : 0.8
Rated speed rpm	: 400	+ Tolerance mm + : 0.4
Del. quantity		+ Check
cm3/1000 strokes	: 11.5	tolerance mm +-: 0.7
Tolerance		+ Shutoff solenoid
cm3/1000 str. +-	2.0	+ Volt : 24
Shutoff solenoid	_	+
Volt	: 24	+ SUPPLY PUMP PRESSURE CHARACTERISTIC
Spread		+
cm3/1000 strokes	: 5.5	+ Rated speed rpm : 1100
Check tolerance	***	+ Aneroid pressure
cm3/1000s.	: 7.0	+ hPa : 1000
		+ Supply pomp
		+ pressure bar : 5.0
		+ Tolerance bar + : 0.3
בווון בוסאה כסבבה ס	CON ATTON	+ Shutof solenoid
FULL-LOAD SPEED R	EGULATION	† Volt : 24
Rated speed rpm	: 1185	Rated speed rpm : 600
Pressure hPa	: 1000	+ Aneroid pressure
Del. quantity	. 1000	+ hPa : 1000
cm3/1000 strokes	: 66.0	Supply pomp
Tolerance	. 60.5	pressure bar : 2.9
cm3/1000 str. +-	: 3.0	+ Tolerance bar +: 0.3
Shutoff solenoid	, 0,0	+ Shutoff solenoid
Volt	: 24	+ Volt : 24
		+
STARTING FUEL DEL	IVERY	+ OVERFLOW QUANTITY
		+
Rated speed rpm	: 100	+ Rated speed rpm : 1150
Del. quantity		+ Aneroid pressure
cm3/1000 strokes	: 110.0	+ hPa : 1000
Tolerance		+ Overflow quantity
cm3/1000 str. +	: 30.0	+ ccm/10s : 97.2
Shutoff solenoid	•	+ Tolerance
Volt	: 24	+ ccm/10s +-: 41.6
		1
		Charle to Language
		Check tolerance
		+ ccm/10s + : 41.6
		ccm/10s +: 41.6 Shutoff solenoid
TN.IFCTT(NL-DI IMP TE	ST SPECIFICATIONS	+ ccm/10s + : 41.6
INJECTION-PUMP TE	ST SPECIFICATIONS	ccm/10s +: 41.6 Shutoff solenoid Volt : 24
		ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500
INJECTION—PUMP TE		ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity
TIMING DEVICE CHA	RACTERISTIC	ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 62.5
TIMING DEVICE CHA	RACTERISTIC	ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity
TIMING DEVICE CHA	RACTERISTIC	ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 62.5 Tolerance
TIMING DEVICE CHA Rated speed rpm Aneroid pressure	RACTERISTIC: 1100	ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 62.5 Tolerance
TIMING DEVICE CHA Rated speed rpm Aneroid pressure	RACTERISTIC : 1100	ccm/10s +: 41.6 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s +: 20.8

Shutoff solenoid Volt : 24	‡	Shutoff solenoid Volt :	24
DELIVERY AND BREAKAWAY CHARACTE	RISTIC +	Rated speed rpm :	900
Rated speed rpm : 1185 Aneroid pressure	†	Aneroid pressure hPa : Del. quantity	1000
hPa : 1000 Del. quantity	1	cm3/1000 strokes : Tolerance	82.5
cm3/1000 strokes : 66.0 Tolerance	+	cm3/1000 str. +-: Check tolerance	1.5
cm3/1000 str. + : 3.0 Check tolerance	‡	cm3/1000s. +-: Shutoff solenoid	3.0
cm3/1000s. + : 6.0 Shutoff solenoid	‡	Volt :	24
Volt : 24	. †	Rated speed rpm : Aneroid pressure	500
Rated speed rpm : 1200 Aneroid pressure hPa : 1000	‡	hPa : Del. quantity cm3/1000 strokes :	1000 85.5
Del. quantity cm3/1000 strokes : 40.0	<u> </u>	Tolerance cm3/1000 str. +-:	4.0
Check tolerance cm3/1000s. +: 20.0	+	Shutoff solenoid Volt :	24
Shutoff solenoid Volt : 24	+	Rated speed rpm :	750
Rated speed rpm : 1260	†	Aneroid pressure hPa :	1000
Aneroid pressure hPa : 1000 Del. quantity	†	Del. quantity cm3/1000 strokes : Tolerance	81.5
cm3/1000 strokes : 1.5 Tolerance	Ţ	cm3/1000 str. +-: Check tolerance	0.5
cm3/1000 str. +-: 1.5 Check tolerance	+	cm3/1000s. +-: Shutoff solenoid	3.0
cm3/1000s. +: 1.5 Shutoff solenoid	+	Volt :	24
Volt : 24	+	MECHANICAL SHUTOFF	
Rated speed rpm : 700 Aneroid pressure hPa : 400	‡	Rated speed rpm : Aneroid pressure	1100
Del. quantity cm3/1000 strokes : 76.5	Ī	hPa : Del. quantity	1000
Tolerance cm3/1000 str. +-: 0.5	+	cm3/1000 strokes : Tolerance	1.5
Check tolerance cm3/1000s. +-: 4.5	+	cm3/1000 str. +-: Check tolerance	1.5
Shutoff solenoid Volt : 24	‡	cm3/1000s. +-: Shutoff solenoid	1.5
Rated speed rpm : 1150 Aneroid pressure	<u>†</u>	Volt :	24
hPa : 1000 Del. quantity	Ī	ELECTR. SHUTOFF CONTROL LEVER, IDLE	STOP
cm3/1000 strokes : 77.5 Tolerance	‡	Rated speed rpm :	400
cm3/1000 str. + : 1.5 Check tolerance	‡	Del. quantity cm3/1000 strokes :	1.5
cm3/1000s. +-: 3.0	+		

Tolerance cm3/1000 str. +-:1.5 Check tolerance cm3/1000s. 1.5 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 400 Del quantity cm3/1500 strokes : 1.5 Tolerance cm3/1000 str. +-:1.5 Check tolerance cm3/1000s. 1.5 +-: IDLE DELIVERY 500 Rated speed rpm: : Del. quantity cm3/1900 strokes : 2.0 Tolerance cm3/1000 str. +-:2.0 Check tolerance cm3/1000s. +-: 2.0 Shutoff solenoid Volt 24 START TRANSITION 440 Rated speed rpm Del. quantity cm3/1000 strokes : 65.0 Tolerance cm3/1000 str. +-:15.0 Shutoff solenoid Volt 24 280 Rated speed rpm Del. quantity cm3/1000 strokes : 110.0 Tolerance cm3/1000 str. + :30.0 Shutoff solenoid 24 Volt ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension KF mm : 5,2

CONTROL LEVER POSITION SET

position YA mm : 34,8..38,8

Control lever

Control lever

position YB mm : 42,0..47,6

End of test-specification sheet

Dimension KF mm : 5,2
Tolerance mm + : 0,2
Dimension MS mm : 1,2
Tolerance mm + : 0,2
SVS dimension mm : 2,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 12.08.96 Edition Test oil : ISO 4113

Part no. : 0 460 426 211 Pump designation: VE6/12F1250R498

Customer-spec. information Customer : CDC

: 6 BTAA 5.9B Motor

TEST BENCH REQUIREMENTS

Calibrating-oil return

temperature °C Tolerance °C + :

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

: 1 688 901 109 assembly

Opening pressure

207 bar Tolerance bar +: 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,4

Tolerance mm + : 0.02(0.06)

Outlet : D

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

1000 Rated speed rpm

Aneroid pressure

hPa 1000

Setting mm 1.7 Tolerance mm +-: 0.2

Shutoff solenoid

Volt 24

SUPPLY PUMP PRESSURE

Rated speed rpm 1000

Aneroid pressure

1000

Supply pomp

pressure bar 6.6 Tolerance bar +-:0.3

Shutoff solenoid

Volt 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 850

Aneroid pressure

hPa 100C

Del. quantity

cm3/1000 strokes : 84.5

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. 5.0

Shutoff solenoid

Volt 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 71.0

Tolerance

cm3/1000 str. +-:0.5

Spread

5.0 cm3/1000 strokes :

Shutoff solenoid

24

Volt

:

Check tolerance cm3/1000s.

6.0

Check tolerance

cm3/1000s. 5.0

	Accred procure
IDLE SETTING	+ Aneroid pressure + hPa : 1000 + Shutoff solenoid
Rated speed rpm : 350 Del. quantity	Volt : 24
cm3/1000 strokes : 8.0 Tolerance	Rated speed rpm : 450
cm3/1000 str. + : 2.0 Shutoff solenoid	SV travel mm : 2.4 Tolerance mm +-: 0.5
Volt : 24 Spread	Check tolerance mm +-: 0.7
cm3/1000 strokes : 5.5 Check tolerance	Shutoff solenoid Volt : 24
cm3/1000s. : 7.0	KSB/AFB Volt : 24
	Rated speed rpm : 850
FULL-LOAD SPEED REGULATION	Aneroid pressure : 1000
Datad anal d ana a 1700	50/ +===== 0.7
Rated speed rpm : 1380 Pressure hPa : 1000	+ SV travel mm : 0.7
Del. quantity	Tolerance mm + : 0.4
cm3/1000 strokes : 60.5	+ Check + tolerance mm + : 0.7
Tolerance cm3/1000 str. +-: 3.0	+ Shutoff solenoid + Volt : 24
Shutoff solenoid	1
Volt : 24	SUPPLY PUMP PRESSURE CHARACTERISTIC
STARTING FUEL DELIVERY	Rated speed rpm : 1250 Aneroid pressure
Rated speed rpm : 100	hPa : 1000
Del. quantity cm3/1000 strokes : 85.0	Supply pomp
	pressure bar : 7.5
Tolerance	+ Tolerance bar + : 0.3
cm3/1000 str. + : 15.0	+ Shutoff solenoid
Shutoff solenoid Volt : 24	+ Volt : 24
, 24	Rated speed rpm : 850 Aneroid pressure
	+ hPa : 1000
	+ Supply pomp
	+ pressure bar : 6.2
INJECTION-PUMP TEST SPECIFICATIONS	+ Tolerance bar + : 0.3
	+ Shutoff solenoid
TIMING DEVICE CHARACTERISTIC	+ Volt : 24
Rated speed rpm : 1250 Aneroid pressure	Rated speed rpm : 500 Aneroid pressure
hPa : 1000	+ hPa : 1000 + Supply pomp
SV travel mm : 2.4	pressure bar : 4.4
Tolerance mm +-: 0.4	+ Tolerance bar +-: 0.3
Check tolerance mm + : 0.7	+ Shutoff solenoid + Volt : 24
Shutoff solenoid Volt : 24	OVERFLOW QUANTITY
Rated speed rpm : 500	T

Overflow quantity ccm/10s	: 63.8	‡	Aneroid pressure hPa	:	450	
Tolerance ccm/10s +:	: 22.2	†	Del. quantity cm3/1000 strokes	:	79.5	
Check tolerance	: 22.2	Ī	Tolerance cm3/1000 str. +- Check tolerance	:	0.5	
Shutoff solenoid Volt	: 24	1	cm3/1000s. +- Shutoff solenoid	:	4.0	
The same of the sa	: 1250	‡	Volt	:	24	
Aneroid pressure	: 1000	‡	Aneroid pressure	:	1250	
Overflow quantity ccm/10s Tolerance	: 77.7	Ī	hPa Del. quantity cm3/1000 strokes	:	1000 84.0	
ccm/10s +-	: 27.7	Ţ	Tolerance		1.5	
Check tolerance ccm/10s +- :	: 27.7	+	Check tolerance cm3/1000s. +-	:	3.0	
Shutoff solenoid Volt	: 24	‡	Shutoff solenoid Volt	:	24	
DELIVERY AND BREAK	AWAY CHARACTERISTIC	Ī	Rated speed rpm Aneroid pressure	:	500	
Rated speed rpm : Aneroid pressure	: 1380	‡	hPa Del. quantity	:	1000	
hPa Del. quantity	: 1000	 +	cm3/1000 strokes Tolerance	:	97.0	
cm3/1000 strokes : Tolerance		‡	cm3/1000 str. +- Shutoff solenoid	:	5.0	
cm3/1000 str. + : Check tolerance cm3/1000s. + :		Ţ	Volt Rated speed rpm	:	24 850	
Shutoff solenoid Volt	: 24	†	Aneroid pressure hPa	:	1000	
	: 1465	+		:	84.5	
Aneroid pressure hPa	: 1000	†	Tolerance cm3/1000 str. +-	:	0.5	
Del. quantity cm3/1000 strokes : Check tolerance	20.0	Ī	Check tolerance cm3/1000S. +- Shutoff solenoid	:	3.0	
cm3/1000s. +-: Shutoff solenoid	: 10.0	‡	Volt	:	24	
Volt	: 24	‡	MECHANICAL SHUTOFF			_
Aneroid pressure	: 1510 : 1000	‡	Rated speed rpm Aneroid pressure	:	1250	
Del. quantity cm3/1000 strokes :		I	hPa Del. quantity	:	1000	
Tolerance cm3/1000 str. +-:		‡	cm3/1000 strokes Tolerance		1.5	
Check tolerance cm3/1000S. +-:	: 1.5	‡	cm3/1000 str. ← Check tolerance		1.5	
Shutoff solenoid Volt :	: 24	Ī	cm3/1000S. +- Shutoff solenoid Volt	:	1.5 24	
Rated speed rpm	: 600	Ţ	#ULL	•	C#	

<u> </u>			
ELECTR. SHUTOFF CONTROL LEVER, ID	LE ST	OP	
Rated speed rpm	:	350	
Del. quantity cm3/1000 strokes	:	1.5	
Tolerance cm3/1000 str. +-	:	1.5	
Check tolerance cm3/1000s. +-	:	1.5	
FULL-LOAD STOP CO	NTROL	LEVER	
Rated speed rpm	:	350	
Del. quantity cm3/1000 strokes	:	1.5	
Tolerance cm3/1000 str. +-		1.5	
IDLE DELIVERY	•		
Rated speed rpm	:	410	
Del. quantity cm3/1000 strokes		1.5	
Tolerance			
cm3/1000 str. +- Check tolerance	:	1.5	
cm3/1000s. +- Shutoff solenoid	:	1.5	
Volt	:	24	
START TRANSITION			
Rated speed rpm	:	240	
Del. quantity cm3/1000 strokes	:	80.0	
Tolerance cm3/1000 str. +-	:	15.0	
Shutoff solenoid Volt	:	24	
		4==	
Rated speed rpm Del. quantity	:	130	
cm3/1000 strokes Tolerance	:	95.0	
cm3/1000 str. +- Shutoff solenoid	:	20.0	
Volt	:	24	

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7
Tolerance mm + : 0,1
Dimension KF mm : 6,4
Tolerance mm + : 0,2
MS1 dimension mm : 1,35
Tolerance mm + : 0,15
SVS dimension mm : 3,1

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 43,8..49,4

BOSCH 1	INJ.	PUMP	TEST	SPEC	[FICA]	rions
Note re	emark	(S				
Dofor +			Tmf	· •	++	224

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 12.08.96 Edition : ISO 4113 Test oil

: 3 282 309 Part no.

Pump designation: VE6/12F1250R498B

Customer-spec. information : CDC Customer

Motor : 6 BTAA 5.9B

TEST BENCH REQUIREMENTS

Calibrating-oil return

temperature °C 45 Tolerance °C +-:

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar +-:

Test nozzle holde

: 1 688 901 109 assembly

Opening pressure

207 Tolerance bar + : 3

: 1 680 750 000 Test lines

Outside diameter : 6.00

x inside diameter: 2.00 x length mm 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,4

Tolerance mm +: 0,02(0,06)

Outlet | : D

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

1000 Rated speed rpm

Aneroid pressure

hPa 1200

1.7 Setting mm Tolerance mm + : 0.2

Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 1000

Aneroid pressure

hPa 1200 Supply pomp

pressure bar 6.6 Tolerance bar + :

0.3 Shutoff solenoid

12 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

750 Rated speed rpm

Aneroid pressure

hPa 1200

Del. quantity

cm3/1000 strokes : 83.5

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s.5.0

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm :

Del. quantity

65.0 cm3/1000 strokes :

Tolerance

cm3/1000 str. + :0.5

Spread

5.0 cm3/1000 strokes :

Shutoff solenoid

Volt

12 Check tolerance

cm3/1000s.

6.0

Check tolerance

cm3/1000s. 5.0

		+ Aneroid pressure	
IDLE SETTING		+ hPa + Shutoff solenoid	: 1200
Rated speed rpm Del. quantity	: 350	Volt	: 12
cm3/1000 strokes Tolerance	: 15.0	Rated speed rpm	: 450
cm3/1000 str. +- Shutoff solenoid	: 2.0	SV travel mm Tolerance mm +-	: 2.4 : 0.5
Volt Spre a d	: 12	Check tolerance mm +	: 0.7
cm3/1000 strokes Check tolerance	: 5.5	+ Shutoff solenoid + Volt	: 12
cm3/1000s.	: 7.0	+ KSB/AFB Volt	: 24
		Rated speed rpm	: 850
FULL-LOAD SPEED R	EGULATION	Aneroid pressure hPa	: 1200
Rated speed rpm	: 1300	T SV travel mm	: 0.7
Pressure hPa	: 1200	+ Tolerance mm +	: 0.4
Del. quantity		+ Check	
cm3/1000 strokes	: 82.0	+ tolerance mm +-	: 0.7
Tolerance		+ Shutoff solenoid	
cm3/1000 str. + Shutoff solenoid		+ Volt +	: 12
Volt	: 12	+ SUPPLY PUMP PRESSU	JRE CHARACTERISTIC
STARTING FUEL DEL		+ Rated speed rpm + Aneroid pressure	
Rated speed rpm	: 100	+ hPa	: 1200
Del. quantity		+ Supply pomp	7 /
cm3/10G0 strokes Tolerance	: 90.0	+ pressure bar	7.6
cm3/1000 str. +-	: 15.0	+ Tolerance bar +-	: 0.3
Shutoff solenoid	: 15.0	+ Shutoff solenoid + Volt	: 12
Volt	: 12	I	. 12
VOCC		Rated speed rpm	: 850
		+ Aneroid pressure	
		+ hPa	: 1200
		+ Supply pomp	
		+ pressure bar	: 6.2
INJECTION-PUMP TE	ST SPECIFICATIONS	+ Tolerance bar +-	: 0.3
TIMING DEVICE CHA	RACTERISTIC	+ Shutoff solenoid + Volt	: 12
Rated speed rpm	: 1250	Rated speed rpm	: 500
Aneroid pressure hPa	: 1200	Aneroid pressure hPa	: 1200
SV travel mm	: 2.4	Supply pomp	: 4.4
Tolerance mm +-	: 0.4	<pre>pressure bar Tolerance bar +-</pre>	
Check	. 0.7	Shutoff solenoid	. 0.5
tolerance mm +- Shutoff solenoid	: 0.7	Volt	: 12
Volt	: 12	OVERFLOW QUANTITY	
Rated speed rpm	: 500	Rated speed rpm	: 500

Armada - mariante de la		
Overflow quantity	+ Aneroid pressure	
ccm/10s : 63.8	+ hPa : 450	
Tolerance	+ Del. quantity	
ccm/10s + : 22.2	+ cm3/1000 strokes : 81.5	
	† Tolerance	
Check tolerance	+ cm3/1000 str. +-: 0.5	
ccm/10s + : 22.2	+ Check tolerance	
Shutoff solenoid	+ cm3/1000s. + : 4.0	
Volt : 12	+ Shutoff solenoid	
1000	+ Volt : 12	
Rated speed rpm : 1250	1 4000	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1250	
Aneroid pressure	+ Rated speed rpm : 1250	
hPa : 1200	+ Aneroid pressure	
Overflow quantity	† hPa : 1200	
ccm/10s : 77.7	+ Del. quantity	
Tolerance	+ cm3/1000 strokes : 83.5	
ccm/10s +-: 27.7	+ Tolerance	
	+ cm3/1000 str. + : 1.5	
Check tolerance	+ Check tolerance	
ccm/10s + : 27.7	+ cm3/1000s. +-: 3.0	
Shutoff solenoid	+ Shutoff solenoid	
Volt : 12	+ Volt : 12	
, 12	7 1000	
DEL THEON AND POPALALIAN CHARACTE	EDICTIC TO Detect on FOO	
DELIVERY AND BREAKAWAY CHARACTE		
	+ Aneroid pressure	
Rated speed rpm : 1300	† hPa : 1200	
Aneroid pressure	+ Del. quantity	
hPa : 1200	⊹ cm3/1000 strckes : 92.0	
Del. quantity	+ Tolerance	
cm3/1000 strokes : 82.0	+ cm3/1000 str. +-: 5.0	
Tolerance	+ Shutoff solenoid	
cm3/1000 str. + : 3.0	+ Volt : 12	
	, ,,,	
There to erence	<u>. 1</u> .	
Check tolerance	Pated speed now . 750	
cm $3/1000$ s. \leftarrow : 6.0	Rated speed rpm : 750	
cm3/1000S.	+ Aneroid pressure	
cm $3/1000$ s. \leftarrow : 6.0	+ Aneroid pressure + hPa : 1200	
cm3/1000S. : 6.0 Shutoff solenoid Volt : 12	+ Aneroid pressure + hPa : 1200 + Del. quantity	
cm3/1000s. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465	+ Aneroid pressure + hPa : 1200 + Del. quantity + cm3/1000 strokes : 83.5	
cm3/1000S. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure	+ Aneroid pressure + hPa : 1200 + Del. quantity + cm3/1000 strokes : 83.5 + Tolerance	
cm3/1000s. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPe : 1200	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. +-: 0.5	
cm3/1000s. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. + : 0.5 Check tolerance	
cm3/1000s. : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 20.0	Aneroid pressure + hPa : 1200 + Del. quantity + cm3/1000 strokes : 83.5 + Tolerance + cm3/1000 str. + : 0.5 - Check tolerance - cm3/1000s. + : 3.0	
cm3/1000s. : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 20.0 Check tolerance	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid	
cm3/1000s. : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 20.0	Aneroid pressure + hPa : 1200 + Del. quantity + cm3/1000 strokes : 83.5 + Tolerance + cm3/1000 str. + : 0.5 - Check tolerance - cm3/1000s. + : 3.0	
cm3/1000S. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 20.0 Check tolerance cm3/1000S. +-: 10.0	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid	
cm3/1000S. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 20.0 Check tolerance cm3/1000S. : 10.0 Shutoff solenoid	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid	
cm3/1000S. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 20.0 Check tolerance cm3/1000S. +-: 10.0	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12	
cm3/1000s. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 20.0 Check tolerance cm3/1000s. +-: 10.0 Shutoff solenoid Volt : 12	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid	
cm3/1000s. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPe : 1200 Del. quantity cm3/1000 strokes : 20.0 Check tolerance cm3/1000s. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1510	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 MECHANICAL SHUTOFF	
cm3/1000s. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPe : 1200 Del. quantity cm3/1000 strokes : 20.0 Check tolerance cm3/1000s. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1510 Aneroid pressure	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250	
cm3/1000s. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 20.0 Check tolerance cm3/1000s. : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1510 Aneroid pressure hPa : 1200	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure	
cm3/1000s. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 20.0 Check tolerance cm3/1000s. : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1510 Aneroid pressure hPa : 1200 Del. quantity	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1200	
cm3/1000s. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 20.0 Check tolerance cm3/1000s. : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1510 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1200 Del. quantity	
cm3/1000s. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 20.0 Check tolerance cm3/1000s. : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1510 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5	
cm3/1000s. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 20.0 Check tolerance cm3/1000s. +-: 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1510 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance	
cm3/1000s. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 20.0 Check tolerance cm3/1000s. +-: 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1510 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +-: 1.5 Check tolerance	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. +: 0.5 Check tolerance cm3/1000s. +: 3.0 Shutoff solenoid Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5	
cm3/1000s. Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 20.0 Check tolerance cm3/1000s. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1510 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. +: 0.5 Check tolerance cm3/1000s. +: 3.0 Shutoff solenoid Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance	
cm3/1000s. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 20.0 Check tolerance cm3/1000s. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1510 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Shutoff solenoid	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. +: 0.5 Check tolerance cm3/1000s. +: 3.0 Shutoff solenoid Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5	
cm3/1000s. Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 20.0 Check tolerance cm3/1000s. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1510 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. +: 0.5 Check tolerance cm3/1000s. +: 3.0 Shutoff solenoid Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +: 1.5 Check tolerance	
cm3/1000s. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 20.0 Check tolerance cm3/1000s. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1510 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Shutoff solenoid	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Shutoff solenoid	
cm3/1000s. : : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1465 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 20.0 Check tolerance cm3/1000s. + : 10.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1510 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Shutoff solenoid	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 83.5 Tolerance cm3/1000 str. + : 0.5 Check tolerance cm3/1000s. + : 3.0 Shutoff solenoid Volt : 12 MECHANICAL SHUTOFF Rated speed rpm : 1250 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. + : 1.5 Check tolerance cm3/1000s. + : 1.5 Shutoff solenoid	

ELECTR. SHUTOFF CONTROL LEVER, IDI	E ST	OP
Rated speed rpm Del. quantity	:	350
cm3/1000 strokes	:	1.5
Tolerance cm3/1000 str. +-	•	1.5
Check tolerance		
cm3/1000s. +-	:	1.5
FULL-LOAD STOP COP	VTROL	LEVER
Rated speed rpm Del. quantity	:	350
cm3/1000 strokes	:	1.5
Tolerance cm3/1000 str. +	:	1.5
IDLE DELIVERY		
Rated speed rpm	•	410
Del. quantity		
Tolerance		1.5
cm3/1000 str. +- Check tolerance	:	1.5
cm3/1000s. +-	:	1.5
Shutoff solenoid Volt	:	12
START TRANSITION		
Rated speed rpm	:	240
Del quantity		
cm3/1000 strokes Tolerance		80.0
cm3/1000 str. +- Shutoff solenoid	:	15.0
Volt	:	12
Rated speed rpm	:	13Q
Del. quantity		
cm3/1000 strokes Tolerance	:	95.0
cm3/1000 str. +- Shutoff solenoid	:	20.0
Volt	:	12

Dimension K mm : 3,7
Tolerance mm + : 0,1
Dimension KF mm : 6,4
Tolerance mm + : 0,2
MS1 dimension mm : 1,35
Tolerance mm + : 0,15
SVS dimension mm : 3,1

CONTROL LEVER POSITION SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 43,8..49,6

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.08.96 Test oil : ISO 4113

: 3 282 306 Part no.

Pump designation: VE6/12F1250R498C

Customer-spec, information Customer

Motor : 6 BTAA 5.9B

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature *C Tolerance *C +-:

Overflow

restriction mm 0.55

Inlet press. bar : 0.35Tolerance bar +-: 0.05

Test nozzle holde

assembly : 1 688 901 109

Opening pressure

207 bar Tolerance bar + :

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,4

Tolerance mm +: 0.02(0.06)

Outlet : D

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

1000 Rated speed rpm

Aneroid pressure

hPa 1200

1.7 Setting mm Tolerance mm 0.2

Shutoff solenoid

Volt 24

SUPPLY PUMP PRESSURE

Rated speed rpm 1000

Aneroid pressure

hPa 1200

Supply pomp pressure bar

6.6 Tolerance bar + : 0.3

Shutoff solenoid

Volt 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 750

Aneroid pressure

hPa 1200

Del. quantity

cm3/1000 strokes : 83.5

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s.5.0

Shutoff solenoid

Volt 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 65.1

Tolerance

cm3/1000 str. +-:0.5

Spread

cm3/1000 strokes : 5.0

Shutoff solenoid

Volt 24

Check tolerance

cm3/1000s.6.0

Check tolerance

cm3/1000s.5.0

		+ Aneroid pressure
IDLE SETTING		+ hPa : 1200
Rated speed rpm	: 350	+ Shutoff solenoid + Volt : 24
Del. quantity cm3/1000 strokes Tolerance	: 15.0	Rated speed rpm : 450
cm3/1000 str. +- Shutoff solenoid	: 2.0	SV travel mm : 2.4 Tolerance mm + : 0.5
Volt Spread	: 24	Check tolerance mm +: 0.7
cm3/1000 strokes Check tolerance	: 5.5	Shutoff solenoid Volt : 24
cm3/1000s.	: 7.0	KSB/AFB Volt : 24
		Rated speed rpm : 850
FULL-LOAD SPEED R	EGULATION	Aneroid pressure : 1200
Description and a man	. 4700	† CV Assert 50
Rated speed rpm Pressure hPa	: 1300 : 1200	+ SV travel mm : 0.7 + Tolerance mm + : 0.4
Del. quantity	1200	1
cm3/1000 strokes	: 82.0	+ Check + tolerance mm +-: 0.7
Tolerance	. 02.0	+ Shutoff solenoid
cm3/1000 str. + Shutoff solenoid	: 3.0	+ Volt : 24
Volt	: 24	SUPPLY PUMP PRESSURE CHARACTERISTIC
STARTING FUEL DEL	IVERY	Rated speed rpm : 1250 Aneroid pressure
Rated speed rpm Del. quantity	: 100	hPa : 1200 Supply pomp
cm3/1000 strokes	: 90.0	+ pressure bar : 7.6
Tolerance	45.0	+ Tolerance bar + : 0.3
cm3/1000 str. +- Shutoff solenoid	: 15.0	+ Shutoff solenoid + Volt : 24
Volt	: 24	+
		Rated speed rpm : 850 Aneroid pressure
		+ hPa : 1200 + Supply pomp
		pressure bar : 6.2
INJECTION-PUMP TE	ST SPECIFICATIONS	+ Tolerance bar + : 0.3
TIMING DEVICE CHAP	RACTERISTIC	+ Shutoff solenoid + Volt : 24
Rated speed rpm Aneroid pressure	: 1250	Rated speed rpm : 500 Aneroid pressure
hPa	: 1200	hPa : 1200 Supply pomp
SV travel mm	: 2.4	pressure bar : 4.4
Tolerance mm +		† Tolerance bar + : 0.3
Check		+ Shutoff solenoid
tolerance mm +-	. 07) Vala - 2/
Shirtoff salanaid		† Volt : 24
Shutoff solenoid Volt		Volt : 24 OVERFLOW QUANTITY

Overflow quantity ccm/10s : 63.8	+ Aneroid pressure + hPa : 460
Tolerance ccm/10s +: 22.2	Del. quantity + cm3/1000 strokes : 81.5
Check tolerance	+ Tolerance + cm3/1000 str. + : 0.5
ccm/10s +-: 22.2 Shutoff solenoid	Check tolerance + : 4.0
Volt : 24	Shutoff solenoid Volt : 24
Rated speed rpm : 1250 Aneroid pressure	+ Rated speed rpm : 1250
hPa : 1200 Overflow quantity	+ Aneroid pressure + hPa : 1200
ccm/10s : 77.7 Tolerance	+ Del. quantity + cm3/1000 strokes : 83.5
ccm/10s +: 27.7	+ Tolerance + cm3/1000 str. + : 1.5
Check tolerance ccm/10s +: 27.7	+ Check tolerance + cm3/1000s. + : 3.0
Shutoff solenoid Volt : 24	+ Shutoff solenoid + Volt : 24
DELIVERY AND BREAKAWAY CHARACTERISTIC	Rated speed rpm : 500 Aneroid pressure
Rated speed rpm : 1300 Aneroid pressure	+ hPa : 1200 + Del. quantity
hPe : 1200 Del. quantity	cm3/100C strokes : 92.0
cm3/1000 strokes : 82.0 Tolerance	cm3/1000 str. + : 5.0 Shutoff solenoid
cm3/1000 str. + : 3.0 Check tolerance	+ Volt : 24
cm3/1000s. +: 6.0 Shutoff solenoid	+ Rated speed rpm : 750 + Aneroid pressure
Volt : 24	hPa : 1200 Del. quantity
Rated speed rpm : 1465 Aneroid pressure	cm3/1000 strokes : 83.5 Tolerance
hPa : 1200 Del. quantity cm3/1000 strokes : 20.0	+ cm3/1000 str. + : 0.5 + Check tolerance + cm3/1000s. + : 3.0
Check tolerance cm3/1000s. +-: 10.0	Shutoff solenoid Voit : 24
Shutoff solenoid Volt : 24	
Rated speed rpm : 1510	# MECHANICAL SHUTOFF
Aneroid pressure hPa : 1200	+ Rated speed rpm : 1250 + Aneroid pressure
Del. quantity cm3/1000 strokes : 1.5	+ hPa : 1200 + Del. quantity
Tolerance cm3/1000 str. +: 1.5	+ cm3/1000 strokes : 1.5 Tolerance
Check tolerance cm3/1000s. +-: 1.5 Shutoff solenoid	+ cm3/1000 str. + : 1.5 + Check tolerance + cm3/1000s. + : 1.5
Volt : 24	Shutoff solenoid Volt : 24
Rated speed rpm : 500	+

ELECTR. SHUTOFF CONTROL LEVER, ID	LE STO	P	
Rated speed rpm	:	350	
Del. quantity cm3/1000 strokes	:	1.5	
Tolerance cm3/1000 str. +-	:	1.5	
Check tolerance cm3/1000s. +-	:	1.5	
FULL-LOAD STOP CO	NTROL	LEVER	
Rated speed rpm	:	350	
Del. quantity cm3/1000 strokes	:	1.5	
Tolerance cm3/1000 str. +-	:	1.5	
IDLE DELIVERY			
Rated speed rpm	:	410	
Del. quantity cm3/1000 strokes	:	1.5	
Tolerance cm3/1000 str. +-	:	1.5	
Check tolerance cm3/1000s. +-	:	1.5	
Shutoff solenoid Volt	:	24	
START TRANSITION			
Rated speed rpm Del. quantity	:	240	
cm3/1000 strokes Tolerance	:	80.0	
cm3/1000 str. +-	:	15.0	
Shutoff solenoid Volt	:	24	
Rated speed rpm	:	130	
Del. quantity cm3/1000 strokes	:	95.0	
Tolerance cm3/1000 str. +-	:	20.0	
Shutoff solenoid Volt	:	24	

3,1
0,1
6,4
0,2
1,35
0,15
3,1

CONTROL LEVER POSITION SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 43,8..49,6

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.08.96 Edition Test oil : ISO 4113

: 3 917 038 Part no.

Pump designation: VE6/12F1250R373-3A

Customer-spec. information Customer : CDC

Motor : 6 BTA-590

TEST BENCH REQUIREMENTS

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 Tolerance bar + :

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,85

Tolerance mm +: 0.02(0.06)

Outlet : D

Prestroke

(as of UT) mm : 0.3 Tolerance mm + : 0,02

Check

tolerance mm +: 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 750

Aneroid pressure

1000

Setting mm 1.6 Tolerance mm + : 0.2

SUPPLY PUMP PRESSURE

Rated speed rpm 750

Aneroid pressure

hPa 1000

Supply pomp

pressure bar 3.5

Tolerance bar ←: 0.3

FULL-LOAD DELIVERY WITH BOOST PRESSURE

750 Rated speed rpm

Aneroid pressure

hPa 1000

Del. quantity

cm3/1000 strokes : 82.5

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

4.5 cm3/1000s.

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 40.5

Tolerance

cm3/1000 str. + :0.5

Check tolerance

cm3/1000s. 4.5

IDLE SETTING

Rated speed rpm 375 :

Del. quantity

cm3/1000 strokes : 6.0

Tolerance

cm3/1000 str. + :2.0

Spread

cm3/1000 strokes : 5.5

Check tolerance cm3/1000s. : 7.0	Aneroid pressure hPa : 1000 Supply pomp pressure bar : 2.4 Tolerance bar + : 0.3
FULL-LOAD SPEED REGULATION	OVERFLOW QUANTITY
Rated speed rpm : 1300 Pressure hPa : 1000 Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 str. +-: 3.0	Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance
STARTING FUEL DELIVERY	ccm/10s +-: 41.6
Rated speed rpm : 100 - Del. quantity -	- Check tolerance - ccm/10s +-: 41.6
<pre>cm3/1000 strokes : 95.0 - Tolerance - cm3/1000 str. +- : 25.0</pre>	Rated speed rpm : 500 Overflow quantity ccm/10s : 62.5
	Tolerance - : 20.8
INJECTION-PUMP TEST SPECIFICATIONS	Check tolerance ccm/10s +-: 20.8
TIMING DEVICE CHARACTERISTIC	DELIVERY AND BREAKAWAY CHARACTERISTIC
ITHING DEVICE CHARACTERISTIC	<u>-</u>
Poted cheed page 1050	Rated speed rpm : 1300
Rated speed rpm : 1050 - Aneroid pressure - hPa : 1000 -	Aneroid pressure hPa : 1000
Aneroid pressure hPa : 1000 -	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 68.0
Aneroid pressure hPa : 1000 - SV travel mm : 2.7 Tolerance mm + : 0.4 Check -	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 str. +-: 3.0 Check tolerance
Aneroid pressure hPa : 1000 - SV travel mm : 2.7 Tolerance mm +-: 0.4	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 str. +-: 3.0
Aneroid pressure hPa : 1000 SV travel mm : 2.7 Tolerance mm +-: 0.4 Check tolerance mm +-: 0.7 Rated speed rpm : 600 Aneroid pressure	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 6.0 Rated speed rpm : 1330 Aneroid pressure
Aneroid pressure hPa : 1000 SV travel mm : 2.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Rated speed rpm : 600 Aneroid pressure hPa : 1000	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 6.0 Rated speed rpm : 1330 Aneroid pressure hPa : 1000 Del. quantity
Aneroid pressure hPa : 1000 SV travel mm : 2.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Rated speed rpm : 600 Aneroid pressure hPa : 1000 SV travel mm : 0.8 Tolerance mm + : 0.4	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 6.0 Rated speed rpm : 1330 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 35.0 Check tolerance
Aneroid pressure hPa : 1000 SV travel mm : 2.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Rated speed rpm : 600 Aneroid pressure hPa : 1000 SV travel mm : 0.8	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. + : 6.0 Rated speed rpm : 1330 Aneroid pressure hPa : 1080 Del. quantity cm3/1000 strokes : 35.0 Check tolerance cm3/1000s. + : 20.0
Aneroid pressure hPa : 1000 SV travel mm : 2.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Rated speed rpm : 600 Aneroid pressure hPa : 1000 SV travel mm : 0.8 Tolerance mm + : 0.4 Check	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 6.0 Rated speed rpm : 1330 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 35.0 Check tolerance cm3/1000s. +- : 20.0 Rated speed rpm : 1400 Aneroid pressure
Aneroid pressure hPa : 1000 SV travel mm : 2.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Rated speed rpm : 600 Aneroid pressure hPa : 1000 SV travel mm : 0.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1050	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 6.0 Rated speed rpm : 1330 Aneroid pressure hPa : 1080 Del. quantity cm3/1000 strokes : 35.0 Check tolerance cm3/1000s. +- : 20.0 Rated speed rpm : 1400 Aneroid pressure hPa : 1000 Del. quantity
Aneroid pressure hPa : 1000 SV travel mm : 2.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Rated speed rpm : 600 Aneroid pressure hPa : 1000 SV travel mm : 0.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 str. +- : 3.0 Check tolerance cm3/1000s. +- : 6.0 Rated speed rpm : 1330 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 35.0 Check tolerance cm3/1000s. +- : 20.0 Rated speed rpm : 1400 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance
Aneroid pressure hPa : 1000 SV travel mm : 2.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Rated speed rpm : 600 Aneroid pressure hPa : 1000 SV travel mm : 0.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Supply pomp pressure bar : 4.6	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. +- : 6.0 Rated speed rpm : 1330 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 35.0 Check tolerance cm3/1000s. +- : 20.0 Rated speed rpm : 1400 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +- : 1.5 Check tolerance
Aneroid pressure hPa : 1000 SV travel mm : 2.7 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 Rated speed rpm : 600 Aneroid pressure hPa : 1000 SV travel mm : 0.8 Tolerance mm + : 0.4 Check tolerance mm + : 0.7 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Supply pomp	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 str. + : 3.0 Check tolerance cm3/1000s. +- : 6.0 Rated speed rpm : 1330 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 35.0 Check tolerance cm3/1000s. +- : 20.0 Rated speed rpm : 1400 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 str. +- : 1.5

Aneroid pressure hPa : Del. quantity	450	IDLE DELIVERY
cm3/1000 strokes : Tolerance	67.5	Rated speed rpm : 500
cm3/1000 str. + : Check tolerance cm3/1000S, + :	0.5 4.5	Del. quantity cm3/1000 strokes : 2.0 Tolerance
Rated speed rpm :	1250	cm3/1000 str. +-: 2.0 Check tolerance
Aneroid pressure hPa :	1000	cm3/1000s. +-: 2.0
Del. quantity cm3/1000 strokes : Tolerance	76.0	
cm3/1000 str. +-: Check tolerance	1.5	
cin3/1000s. +-:	3.0	START TRANSITION
Rated speed rpm : Aneroid pressure	1050	Rated speed rpm : 420 Del. quantity
hPa : Del. quantity	1000	cm3/1000 strokes : 40.0 Tolerance
cm3/1000 strokes : Tolerance	80.0	cm3/1000 str. +-: 20.0
cm3/1000 str. + : Check tolerance	1.5	Rated speed rpm : 240
cm3/1909s, +-:	3.0	Del. quantity cm3/1000 strokes : 100.0
Rated speed rpm : Aneroid pressure	500	Tolerance cm3/1000 str. +-: 25.0
NPS .	1000 1	
hPa : Del. quantity cm3/1000 strokes :	82.5	ASSEMBLY AND ADJUSTMENT DIMENSIONS
~	82.5 4.0	ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension KF mm : 5,2
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Rated speed rpm :	82.5	Dimension KF mm : 5,2 Tolerance mm + : 0,2 MS1 dimension mm : 1,65
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Rated speed rpm : Ameroid pressure hPa :	82.5	Dimension KF mm : 5,2 Tolerance mm + : 0,2
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 str. + : Rated speed rpm : Ameroid pressure	82.5 4.0 750	Dimension KF mm : 5,2 Tolerance mm + : 0,2 MS1 dimension mm : 1,65 Tolerance mm + : 0,15
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Rated speed rpm: Averoid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance	82.5 4.0 750 1000 82.5 0.5	Dimension KF mm : 5,2 Tolerance mm + : 0,2 MS1 dimension mm : 1,65 Tolerance mm + : 0,15
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Rated speed rpm: Averoid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +:	82.5 4.0 750 1000 82.5	Dimension KF mm : 5,2 Tolerance mm + : 0,2 MS1 dimension mm : 1,65 Tolerance mm + : 0,15 SVS dimension mm : 1,8 CONTROL LEVER POSITION
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Rated speed rpm: Averoid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance	82.5 4.0 750 1000 82.5 0.5	Dimension KF mm : 5,2 Tolerance mm + : 0,2 MS1 dimension mm : 1,65 Tolerance mm + : 0,15 SVS dimension mm : 1,8 CONTROL LEVER POSITION
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Rated speed rpm: Aneroid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: MECHANICAL SHUTOFF Rated speed rpm: Aneroid pressure	82.5 4.0 750 1000 82.5 0.5 3.0	Dimension KF mm : 5,2 Tolerance mm + : 0,2 MS1 dimension mm : 1,65 Tolerance rm + : 0,15 SVS dimension mm : 1,8 CONTROL LEVER POSITION SET Control lever
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Rated speed rpm: Areroid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: MECHANICAL SHUTOFF Rated speed rpm: Aneroid pressure hPa: Del. quantity	82.5 4.0 750 1000 82.5 0.5 3.0 1250 1000	Dimension KF mm : 5,2 Tolerance mm + : 0,2 MS1 dimension mm : 1,65 Tolerance mm + : 0,15 SVS dimension mm : 1,8 CONTROL LEVER POSITION SET Control lever position YA mm : 34,838,8 Control lever
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Rated speed rpm: Areroid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: MECHANICAL SHUTOFF Rated speed rpm: Aneroid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance:	82.5 4.0 750 1000 82.5 0.5 3.0 1250 1000 1.5	Dimension KF mm : 5,2 Tolerance mm + : 0,2 MS1 dimension mm : 1,65 Tolerance mm + : 0,15 SVS dimension mm : 1,8 CONTROL LEVER POSITION SET Control lever position YA mm : 34,838,8 Control lever
Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Rated speed rpm: Areroid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 str. +: Check tolerance cm3/1000s. +: MECHANICAL SHUTOFF Rated speed rpm: Aneroid pressure hPa: Del. quantity cm3/1000 strokes:	82.5 4.0 750 1000 82.5 0.5 3.0 1250 1000	Dimension KF mm : 5,2 Tolerance mm + : 0,2 MS1 dimension mm : 1,65 Tolerance mm + : 0,15 SVS dimension mm : 1,8 CONTROL LEVER POSITION SET Control lever position YA mm : 34,838,8 Control lever

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.08.96 Test oil : ISO 4113

: 3 921 244 Part no.

Pump designation: VE6/12F1100R373-5B

Customer-spec. information Customer : CDC

: 6 BT 5.9 IND. Motor

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C +:

Overflow

restriction mm 0.55 :

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

bar 250 Tolerance bar + :

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 1,85

Tolerance mm +: 0.02(0.06)

Outlet | : D

Prestroke

(as of UT) mm : 0,3 Tolerance mm + : 0.02

Check

tolerance mm +-:0.04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 750

Aneroid pressure

hPa 1000

1.5 Setting mm Tolerance mm + : 0.2

Shutoff solenoid

24 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 750

Aneroid pressure

hPa 1000

Supply pomp

pressure bar 3.5 Tolerance bar + : 0.3

Shutoff solenoid

24 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 750

Aneroid pressure

hPa 1000

Del. quantity

cm3/1000 strokes : 81.5

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s.4.5

Shutoff solenoid

Volt 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm

Del. quantity

cm3/1000 strokes :

66.5

Tolerance

cm3/1000 str. +-:

0.5

Spread		+ Tolerance mm +-: 0.4
cm3/1000 strokes	: 9.0	+ Check
Shutoff solenoid		tolerance mm + : 0.7
Volt	: 24	+ Shutoff solenoid
	. 24	
Check tolerance	0.0	+ Volt : 24
cm3/100Gs.	: 9.0	- †
Check tolerance		+ Rated speed rpm : 600
cm3/1000s.	: 4.5	+ Aneroid pressure
		+ hPa : 1000
IDLE SETTING		1
		+ SV travel mm : 0.8
Rated speed rpm	: 400	+ Tolerance mm +-: 0.4
Del. quantity	. 400	Check
	. 44.0	
cm3/1000 strokes	: 11.0	+ tolerance mm + : 0.7
Tolerance		+ Shutoff solenoid
cm3/1000 str. +-	2.0	+ Volt : 24
Shutoff solenoid		+
Volt	: 24	SUPPLY PUMP PRESSURE CHARACTERISTIC
Spread		1
cm3/1000 strokes	: 5.5	Rated speed rpm : 1100
Check tolerance		Aneroid pressure
cm3/1000s.	: 7.0	
CIBA TUUUS.	. /.U	+ hPa : 1000
		+ Supply pomp
		+ pressure bar : 5.0
		+ Tolerance bar +-: 0.3
		+ Shutoff solenoid
FULL-LOAD SPEED R	EGULATION	+ Volt : 24
		- -
Rated speed rpm	: 1185	+ Rated speed rpm : 600
Pressure hPa	: 1000	+ Aneroid pressure
Del. quantity		hPa : 1000
cm3/1000 strokes	: 66.0	(
	: 66.0	+ Supply pomp
Tolerance		+ pressure bar : 2.9
cm3/1000 str. +	3.0	† Tolorance bar +-: 0.3
Shutoff solenoid		+ Shutoff solenoid
Volt	: 24	+ Volt : 24
		+
STARTING FUEL DEL	IVERY	+ OVERFLOW QUANTITY
		÷-
Rated speed rpm	: 100	+ Rated speed rpm : 1150
Del. quantity		+ Aneroid pressure
cm3/1000 strokes	: 110.0	+ hPa : 1000
Tolerance		+ Overflow quantity
cm3/1000 str. +	: 30.0	com/10s : 97.2
	. 50.0	Tolerance
Shutoff solenoid	24	
Volt	: 24	+ ccm/10s + : 41.6
		†
		+ Check tolerance
		+ ccm/10s + : 41.6
		Shutoff solenoid
		+ Volt : 24
INJECTION-PUMP TE	ST SPECIFICATIONS	
2110 201 2011 . 0111 . 12	01 01 2021 20/1120110	Rated speed rpm : 500
TIMING DEVICE CHA	DACTEDICTIC	+ Overflow quantity
FILITIAG DEATCE CHA	WHOLEKTOLIC	+ ccm/10s : 62.5
Dahad assault sur-	. 4400	
Rated speed rpm	: 1100	† Tolerance
Aneroid pressure	4000	+ ccm/10s + : 20.8
hPa	: 1000	†
	_	+ Check tolerance
SV travel mm	: 2.6	+ ccm/10s +-: 20.8

Shutoff solenoid Volt :	24 ‡	Check tolerance cm3/1000s. +-:	3.0
DELIVERY AND BREAKAWAY CHA	RACTERISTIC	Shutoff solenoid Volt :	24
Rated speed rpm : 1185	}	Rated speed rpm :	500
Aneroid pressure	00	Aneroid pressure hPa :	1000
Del. quantity	.0	Del. quantity cm3/1000 strokes :	85. 5
Tolerance	.0	Tolerance cm3/1000 str. +-:	4.0
Check tolerance	.0	Shutoff solenoid Volt :	24
Shutoff solenoid	24	Rated speed rpm :	750
Rated speed rpm : 1260		Aneroid pressure hPa :	1000
Aneroid pressure	00	Del. quantity cm3/1000 strokes :	81.5
Del. quantity	.5	Tolerance cm3/1000 str. +-:	0.5
Tolerance	.5	Check tolerance cm3/1000s. +-:	3.0
Check tolerance	.5	Shutoff solenoid Volt :	24
Shutoff solenoid Volt :	24 +		
Rated speed rpm : 700	+	MECHANICAL SHUTOFF	
	00 ‡	Rated speed rpm : Aneroid pressure	1100
	.5 +	hPa : Del. quantity	1000
	.5	cm3/1000 strokes : Tolerance	1.5
	.5	cm3/1000 str. ← : Check tolerance	1.5
Shutofi solenoid Volt :	24	cm3/1000s. +-: Shutoff solenoid	1.5
Rated speed rpm : 1150	†	Volt :	24
	oo ‡	ELECTR. SHUTOFF	
Del. quantity cm3/1000 strokes : 77	.5	CONTROL LEVER, IDLE S	
	.5	Rated speed rpm : Del. quantity	400
	.0 ‡	cm3/1000 strokes : Tolerance	1.5
Shutoff solenoid Volt :	24	cm3/1000 str. +-: Check tolerance	1.5
Rated speed rpm : 900	‡	cm3/1000S. +-:	1.5
	00	FULL-LOAD STOP CONTROL	400
Del. quantity cm3/1000 strokes : 83	.5	Rated speed rpm : Del. quantity cm3/1000 strokes :	1.5
Tolerance cm3/1000 str. + : 1	.5	CIID/ 1000 STrokes :	1.3

Tolerance cm3/1000 str. +-:1.5 Check tolerance cm3/1000s. 1.5 IDLE DELIVERY 500 Rated speed rpm : Del. quantity cm3/1000 strokes : 2.0 Tolerance cm3/1000 str. +-:2.0 Check tolerance cm3/1000s.2.0 Shutoff solenoid Volt 24 START TRANSITION Rated speed rpm : 440 Del. quantity cm3/1000 strokes : 65.0 Tolerance cm3/1000 str. +-:15.0 Shutoff solenoid 24 Volt Rated speed rpm 280 Del. quantity cm3/1000 strokes : 110.0 Tolerance cm3/1000 str. +-: 30.0 Shutoff solenoid 24 Volt ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension KF mm : 5,2 Tolerance mm +-: 0,2 : 1,2 Dimension MS mm +: 0,2 Tolerance mm SVS dimension mm : 2,0 CONTROL LEVER POSITION SET

Control lever : 42,0..47,6 position YB mm

End of test-specification sheet

Control lever

position YA mm : 34,8..38,8

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

See microcard(s) W400/...

Edition : 16.08.96 Test oil : ISO 4113

Part no. : 3 916 920

Pump designation: VE6/12F1150R381-7A

Customer—spec. information Customer : CUMMINS

Motor : 68T- 5.9 IND.

TEST BENCH REQUIREMENTS

Overflow

restriction mm : 0.55

Inlet press. ber : 0.35 Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 027

Opening pressure

bar : 250 Tolerance bar + : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,5

Tolerance mm +: 0.02(0.06)

Outlet : D

Prestroke

(as of UT) mm : 0.3Tolerance mm +-: 0.02

Check

tolerance mm + : 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 750

Setting mm : 3.6 Tolerance mm +-: 0.2

Shutoff solenoid

Volt : 24

SUPPLY PUMP PRESSURE

Rated speed rpm : 750

Supply pomp

pressure bar : 4.0 Tolerance bar + : 0.3

Shutoff solenoid

Volt : 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 750

Del. quantity

cm3/1000 strokes : 73.5

Tolerance

cm3/1000 str. + : 0.5

Spread

cm3/1000 strokes : 4.0

Shutoff solenoid

Volt : 24

IDLE SETTING

Rated speed rpm : 375

Del. quantity

cm3/1000 strokes : 11.0

Tolerance

 $cm3/1000 str. \leftarrow : 3.0$

Shutoff solenoid

Volt : 24

Spread

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s: 7.0

FULL-LOAD SPEED REGULATION

B.1	1
Del. quantity cm3/1000 strokes : 49.5	Pated aread man. 1050
Tolerance 49.3	+ Rated speed rpm : 1050 + Overflow quantity
cm3/1000 str. +-: 3.0	+ con/10s : 97.2
Shutoff solenoid	+ Tolerance
Volt : 24	+ ccm/10s +-: 41.6
CTARTING FUEL NEW TUERN	
STARTING FUEL DELIVERY	+ Check tolerance
Date of an and and a 100	ccm/10s +: 41.6
Rated speed rpm : 100	+ Shutoff solenoid
Del. quantity	† Volt : 24
cm3/1000 strokes : 90.0	Detail and Ton
Tolerance 70.0	Rated speed rpm : 500
cm3/1000 str. +-: 30.0	+ Overflow quantity
Shutoff solenoid	+ ccm/10s : 62.5
Volt : 24	+ Tolerance
	ccm/10s + : 20.8
	†
	+ Check tolerance
	+ ccm/10s + : 20.8
THEOTICAL DIMO TEST OPERATIONS	+ Shutoff solenoid
INJECTION-PUMP TEST SPECIFICATIONS	+ Volt : 24
TIMING NEUTCE CHARACTERICTIC	DELIVERY AND RESIDENCE CHARACTERISTIC
TIMING DEVICE CHARACTERISTIC	DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm : 1050	+ Rated speed rpm : 1150
Rated speed rpm : 1050	,
SV travel non : 5.4	+ Del. quantity + cm3/1000 strokes : 49.5
	Tolerance : 49.3
	+ cm3/1000 str. + : 3.0
Check tolerance mm + : 0.7	
tolerance mm +-: 0.7 Shutoff solenoid	+ Check tolerance + cm3/1000s. +-: 6.0
	+ cm3/1000s. +-: 6.0 + Shutoff solenoid
Volt : 24	+ Volt : 24
Rated speed rpm : 500	† voii : 24
Rated Speed Phil . 300	Rated speed rpm : 1130
SV travel mm : 1.7	Del. quantity
Tolerance mm +: 0.4	- cm3/1000 strokes : 30.0
Check	+ Check tolerance
tolerance mm +: 0.7	- cm3/1000s. + : 15.0
Shutoff solenoid	Shutoff solenoid
Volt : 24	Volt : 24
VOCC . 24	I 1011 . 24
SUPPLY PUMP PRESSURE CHARACTERISTIC	Rated speed rpm : 1200
OUT ET TOTAL TREBOOKE GIMINOTERIESTS	Del. quantity
Rated speed rpm : 1050	+ cm3/1000 strokes : 1.5
Supply pomp	+ Tolerance
pressure bar : 5.2	+ cm3/1000 str. +-: 1.5
Tolerance bar + : 0.3	- Check tolerance
Shutoff solenoid	+ cm3/1000s. +-: 1.5
Volt : 24	+ Shutoff solenoid
• • • • • • • • • • • • • • • • • • • •	+ Volt : 24
Rated speed rpm : 500	1
Supply pomp	Rated speed rpm : 1050
pressure bar : 2.9	Del. quantity
Tolerance bar +: 0.3	+ cm3/1000 strokes : 70.5
Shutoff solenoid	+ Tolerance
Volt : 24	+ cm3/1000 str. + : 1.5
	+ Check tolerance
OVERFLOW QUANTITY	+ cm3/1000s. $+$: 3.0
	•

Shutoff solenoid		+		
Volt	: 24	1	Rated speed rpm	: 450
		+	Del. quantity	, ,,,,
Rated speed rpm	: 900	+	cm3/1000 strokes	: 2.0
Del. quantity	-	+	Tolerance	
cm3/1000 strokes	: 73.5	†	cm3/1000 str. +	: 2.0
Tolerance cm3/1000 str. +-	: 2.0	Ī	Check tolerance cm3/1000s. +-	: 2.0
Check tolerance	. 2.0	I	Shutoff solenoid	. 2.0
cm3/1000s. +-	: 4.0	1	Volt	: 24
Shutoff solenoid		+	,	
Volt	: 24	+		
Dodad manad was	. 500	†		
Rated speed rpm Del. quantity	: 500	Ī		
cm3/1000 strokes	: 58.0	I		
Tolerance	. 50.6	1	START TRANSITION	
cm3/1000 str. +-	: 4.0	+		
Check tolerance		+	Rated speed rpm	: 240
cm3/1000s. +-	: 6.0	†	Del. quantity	
Shutoff solenoid	. 2/	†	cm3/1000 strokes	: 45.0
Valt	: 24	<u> </u>	Tolerance cm3/1000 str. +-	: 15.0
Rated speed rpm	: 750	Ī	Shutoff solenoid	. 13.0
Del. quantity		1	Volt	: 24
cm3/1000 strokes	: 73.5	+		
Tolerance		+		
cm3/1000 str. →	: 0.5	-	Rated speed rpm	: 130
Check tolerance cm3/1000s. +-	: 3.0	<u> </u>	Del. quantity cm3/1000 strokes	: 100.0
Shutoff solenoid		I	Tolerance	. 100.0
Volt	: 24	<u> </u>	cm3/1000 str. +	: 30.0
. •		+	Shutoff solenoid	
		 +	Volt	: 24
MECHANICAL SHUTOF	F	†		
Dated coord and	: 1050	Ţ	ASSEMBLY AND ADJU	STMENT DIMENSIONS
Rated speed rpm Del. quantity	. 1000	I	ASSEMBLI AND ADJU	STRENT DIMENSIONS
cm3/1000 strokes	: 1.5	+	Dimension KF mm	: 5,2
Tolerance		+	Tolerance mm +-	
cm3/1000 str. +-	: 1.5	+	Dimension MS mm	
Check tolerance	4 =	†	Tolerance mm +	
cm3/1000s. +- Shutoff solenoid	: 1.5	†	SVS dimension mm	: 7,6
Volt	: 24	I		
1000		+		
		 +	CONTROL LEVER POS	ITION
ELECTR. SHUTOFF		+	SET	
CONTROL LEVER, IDE	LE STOP	†		
Rated speed rpm	: 375	Ī	Control lever	
Del. quantity	. 373	Ţ	position YA mm	: 34,838,8
cm3/1000 strokes	: 1.5	+	The second second second	,
Tolerance		+	Control lever	
cm3/1000 str. +-	: 1.5	+	position YB mm	: 40,746,3
Check tolerance	: 1.5	†		
cm3/1000s. +-	: 1.5	Ţ		
		Ţ		
IDLE DELIVERY		+	End of test-speci	fication sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.08.96 Test oil : ISO 4113

Part no. : 3 916 922

Pump designation: VE6/12F1150R381-7B

Customer-spec. information Customer : CUMMINS

Motor : 68T- 5.9 IND.

TEST BENCH REQUIREMENTS

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar + : 0.05

Test nozzle holde

assembly : 1 688 901 027

Opening pressure

bar : 250 Tolerance bar +-: 3

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x Length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,5

Tolerance mm + : 0.02(0.06)

Outlet : D

Prestroke

(as of UT) mm : 0,3 Tolerance mm + : 0,02

Check

tolerance mm +-: 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 750

Setting mm : 3.6
Tolerance mm + : 0.5
Shutoff solenoid
Volt : 24

SUPPLY PUMP PRESSURE

Rated speed rpm : 750

Supply pomo

pressure bar : 4.0 Tolerance bar +: 0.3

Shutoff solenoid

Volt : 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 750

Del. quantity

cm3/1000 strokes : 75.5

Tolerance

cm3/1000 str. + : 1.5

Spread

cm3/1000 strokes : 4.0

Shutoff solenoid

Volt : 24

IDLE SETTING

Rated speed rpm : 375

Del. quantity

cm3/1000 strokes : 11.0

Tolerance

cm3/1000 str. + : 3.0

Shutoff solenoid

Volt : 24

Spread

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. : 7.0

FULL-LOAD SPEED REGULATION

Not guarate.	1
Del. quantity cm3/1000 strokes : 55.0	Rated speed rpm : 1050
Tolerance	+ Overflow quantity
cm3/1000 str. + : 3.0	+ ccm/10s : 97.2
Shutoff solenoid	+ Tolerance
Volt : 24	+ ccm/10s +-: 41.6
	+
STARTING FUEL DELIVERY	† Check tolerance
Rated speed rpm : 100	+ ccm/10s + : 41.6
Rated speed rpm : 100 Del. quantity	+ Shutoff solenoid + Volt : 24
cm3/1000 strokes : 90.0	1 1000
Tolerance	Rated speed rpm : 500
cm3/1000 str. +-: 30.0	+ Overflow quantity
Shutoff solenoid	+ ccm/10s : 62.5
Volt : 24	+ Tolerance
	+ ccm/10s +-: 20.8
	† Check tolerance
	+ ccm/10s + : 20.8
	+ Shutoff solenoid
INJECTION-PUMP TEST SPECIFICATIONS	+ Volt : 24
	+
TIMING DEVICE CHARACTERISTIC	+ DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm : 1050	+ Rated speed rpm : 1150
Rated speed rpm : 1050	+ Rated speed rpm : 1150 + Del. quantity
SV travel mm : 5.2	+ cm3/1000 strokes : 55.0
Tolerance mm +: 0.5	+ Tolerance
Check	+ cm3/1000 str. $+$: 3.0
tolerance mm +-: 0.7	+ Check tolerance
Shutoff solenoid	+ cm3/1000s. + : 6.0
Volt : 24	+ Shutoff salenoid + Valt : 24
Rated speed rpm : 500	† Volt : 24
hated speed rpin . 300	Rated speed rpm : 1130
SV travel mm : 1.7	+ Del. quantity
Tolerance mm +: 0.6	+ cm3/1000 strokes : 30.0
Check	+ Check tolerance
tolerance mm +: 0.7	+ cm3/1000s. +: 15.0
Shutoff solenoid	+ Shutoff solenoid + Valt : 24
Volt : 24	† Volt : 24
SUPPLY PUMP PRESSURE CHARACTERISTIC	Rated speed rpm : 1200
	+ Del. quantity
Rated speed rpm : 1050	+ cm3/1000 strokes : 1.5
Supply pomp	+ Tolerance
pressure bar : 5.2	+ cm3/1000 str. +: 1.5
Tolerance bar +-: 0.3 Shutoff solenoid	+ Check tolerance + cm3/1000s. + : 1.5
Volt : 24	Shutoff solenoid
. 27	+ Volt : 24
Rated speed rpm : 500	+
Supply pomp	+ Rated speed rpm : 1050
pressure bar : 2.9	+ Del. quantity
Tolerance bar +: 0.3	+ cm3/1000 strokes : 72.5
Shutoff solenoid Volt : 24	+ Tolerance + cm3/1000 str. +-: 1.5
vocc : 24	+ Check tolerance
OVERFLOW QUANTITY	+ cm3/1000s. + : 3.0
	•

Shutoff solenoid Volt :	24	‡
Rated speed rpm :	500	‡
Del. quantity cm3/1000 strokes :	60.0	†
Tolerance cm3/1000 str. +-:	4.0	START TRANSITION
Check tolerance cm3/1000s. +-: Shutoff solenoid	6.0	+ Rated speed rpm : 240 + Del. quantity
Volt :	24	+ cm3/1000 strokes : 45.0 + Tolerance + cm3/1000 str. +- : 15.0
Rated speed rpm : Del. quantity	750	Shutoff solenoid Volt : 24
cm3/1000 strokes : Tolerance	75.5] VOLU : 24
cm3/1000 str. +:	1.5	Rated speed rpm : 130 Del. quantity
cm3/1000s. +-: Shutoff solenoid	3.0	cm3/1000 strokes : 100.0
Volt :	24	cm3/1000 str. +: 30.0 Shutoff solenoid
MECHANICAL SHUTOFF		: 24
Rated speed rpm : Del. quantity		+ ASSEMBLY AND ADJUSTMENT DIMENSIONS
cm3/1000 strokes : Tolerance		+ Dimension KF mm : 5,2 + Tolerance mm ++ : 0,2
cm3/1000 str. +-: Check tolerance		+ Dimension MS mm : 1,0 + Tolerance ma + : 0,2
cm3/1000s. + : Shutoff solenoid		SVS dimension mm : 1,6
Volt :	24	‡
ELECTR. SHUTOFF CONTROL LEVER, IDLE	STOP	CONTROL LEVER POSITION SET
Rated speed rpm :	3 75	Control lever
Del. quantity cm3/1000 strokes :	1.5	position YA mm : 34,838,8
Tolerance cm3/1000 str. +-:	1.5	+ Control lever + position YB mm : 40,746,3
Check tolerance cm3/1000s. +:	1.5	‡
IDLE DELIVERY		End of test-specification sheet
Rated speed rpm :	450	†
Del. quantity cm3/1000 strokes :	2.0	Ŧ
Tolerance cm3/1000 str. +:	2.0	Ŧ
Check tolerance cm3/1000s. +:	2.0	Ŧ
Shutoff solenoid Volt :	24	Ţ

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.08.96 Edition : ISO 4113 Test oil

Part no. : 3 282 815

Pump designation: VE6/12F1050R381-7C

Customer-spec. information : CUMMINS Customer

: 6BT- 5.9 IND. Motor

TEST BENCH REQUIREMENTS

Overflow

0.55 restriction mm :

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 bar Tolerance bar + :

Test lines : 1 680 750 000

Outside diameter : 6.00

2.00 x inside diameter : x length mm 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,5

Tolerance mm +: 0.02(0.06)

Outlet : D

Prestroke

(as of UT) mm : 0.3+-: 0,02 Tolerance mm

Check

+-: 0,04 tolerance mm

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 750

Setting mm 3.6 Tolerance mm 0.2 Shutoff solenoid

Volt 24

SUPPLY PUMP PRESSURE

750 Rated speed rpm :

Supply pomp

pressure bar 4.0 Tolerance bar + : 0.3

Shutoff solenoid

24 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 750

Del. quantity

cm3/1000 strokes : 73.5

Tolerance

cm3/1000 str. \leftarrow : 0.5 Spread

cm3/1000 strokes : 4.0 Shutoff solenoid

Volt

IDLE SETTING

Rated speed rpm : 535

Del. quantity

cm3/1000 strokes : 7.0 Tolerance

cm3/1000 str. + :3.0

Shutoff solenoid

Volt 24

Spread

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. 7.0

FULL-LOAD SPEED REGULATION

Del. quantity +	
cm3/1000 strokes : 49.5	Rated speed rpm : 1050
Tolerance	Overflow quantity
cm3/1000 str. +-: 3.0 +	ccm/10s : 97.2
Shutoff solenoid +	Tolerance
Volt : 24	ccm/10s + : 41.6
STARTING FUEL DELIVERY	Check tolerance
T T T T T T T T T T T T T T T T T T T	ccm/10s +-: 41.6
Rated speed rpm : 100	Shutoff solenoid
Del. quantity	Volt : 24
cm3/1000 strokes : 90.0 +	500
Tolerance + : 30.0 +	Rated speed rpm : 500
Shutoff solenoid	Overflow quantity ccm/10s : 62.5
Volt : 24	Tolerance
+	ccm/10s + : 20.8
+	
†	Check tolerance
	ccm/10s + : 20.8 Shutoff solenoid
INJECTION-PUMP TEST SPECIFICATIONS	Volt : 24
+	. 27
TIMING DEVICE CHARACTERISTIC	DELIVERY AND BREAKAWAY CHARACTERISTIC
Potent amount and 1050	Dated social way
Rated speed rpm : 1050	Rated speed rpm : 1150 Del. quantity
SV travel mm : 5.4	cm3/1000 strokes : 49.5
Tolerance mm +: 0.4	Tolerance
Check	cm3/1000 str. +-: 3.0
tolerance mm +: 0.7	Check tolerance
Shirtoff solehoid + Volt : 24	om3/1000s. +-: 6.0 Shutoff solenoid
, 24 I	Volt : 24
Rated speed rpm : 500	
+	Rated speed rpm : 1170
SV travel mm : 1.7	Del. quantity
Tolerance mm +: 0.4 + Check	cm3/1000 strokes : 30.0 Check tolerance
tolerance mm + : 0.7	cm3/1000s. +-: 15.0
Shutoff solenoid	Shutoff solenoid
Volt : 24	Volt : 24
+	200
SUPPLY PUMP PRESSURE CHARACTERISTIC	Rated speed rpm : 1230 Del. quantity
Rated speed rpm : 1050	cm3/1000 strokes : 1.5
Supply pomp +	Tolerance
pressure bar : 5.2	cm3/1000 str. + : 1.5
Tolerance bar +: 0.3 +	Check tolerance
Shutoff solenoid + Volt : 24 +	cm3/1000s. +-: 1.5 Shutoff solenoid
Volt : 24	Volt : 24
Rated speed rpm : 500	
Supply pomp	Rated speed rpm : 1050
pressure bar : 2.9	Del. quantity
Tolerance bar +: 0.3	cm3/1000 strokes : 70.5
Shutoff solenoid + Volt : 24 +	Tolerance cm3/1000 str. +-: 1.5
	Check tolerance
OVERFLOW QUANTITY +	cm3/1000s. +-: 3.0
•	

Shutoff solenoid		+
Volt	: 24	Rated speed rpm : 450 Del. quantity
Rated speed rpm Del. quantity	: 900	cm3/1000 strokes : 2.0 Tolerance
cm3/1000 strokes Tolerance	: 73.5	cm3/1000 str. +-: 2.0 Check tolerance
cm3/1000 str. +- Check tolerance	2.0	cm3/1000s. +-: 2.0 Shutoff solenoid
cm3/1000s. + Shutoff solenoid	4.0	Volt : 24
Volt	: 24	<u> </u>
Rated speed rpm Del. quantity	: 500	+
cm3/1000 strokes Tolerance		START TRANSITION
cm3/1000 str. +- Check tolerance		Rated speed rpm : 240
cm3/1000s. +- Shutoff solenoid		+ Del. quantity + cm3/1 000 strokes : 45.0
Volt	: 24	+ Tolerance + cm3/1000 str. + : 15.0
Rated speed rpm Del. quantity cm3/1000 strokes		+ Shutoff solenoid + Volt : 24
Tolerance cm3/1000 str. +-		Rated speed rpm : 130
Check tolerance cm3/1000s.		Del. quantity cm3/1000 strokes : 100.0
Shutoff solenoid Volt		+ Tolerance + cm3/1000 str. +-: 30.0
		Shutoff solenoid Volt : 24
MECHANICAL SHUTOF	F	
Rated speed rpm Del. quantity	: 1050	ASSEMBLY AND ADJUSTMENT DIMENSIONS
cm3/1000 strokes Tolerance		Dimension KF mm : 5,2 Tolerance mm + : 0,2
cm3/1000 str. +- Check tolerance		- Dimension MS mm : 1,0 - Tolerance mm +-: 0,2
cm5/1000s. +- Shutoff solenoid		+ SVS dimension mm : 1,6
Volt	: 24	+
ELECTR. SHUTOFF CONTROL LEVER, ID	LE STOP	CONTROL LEVER POSITION SET
Rated speed rpm Del. quantity	: 530	Control lever position YA mm : 34,838,8
cm3/1000 strokes Tolerance	: 1.5	Control lever
cm3/1000 str. +- Check tolerance		position YB mm : 40,746,3
cm3/1000s. +-		
IDLE DELIVERY		End of test-specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 20.08.96 Edition Test oil : ISO 4113

Part no. : 0 460 424 078 Pump designation: VE4/12F1100R389-2

Customer-spec. information

Customer : CDC

Motor : 4 BT- 390 AUTOM.

TEST BENCH REQUIREMENTS

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar + :

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 bar Tolerance bar + :

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,55

Tolerance mm +: 0.02(0.06)

Outlet : A

Prestroke

(as of UT) mm : 0.3Tolerance mm +-:0.02

Check

+-: 0,04 tolerance mm

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 750

Aneroid pressure

1000 hPa

Setting mm 5.3 Tolerance mm 0.5

Shutoff solenoid

24 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 900

Aneroid pressure

hPa 1000

Shutoff solenoid

Volt 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

750 Rated speed rpm :

Aneroid pressure

1000 hPa

Del. quantity

cm3/1000 strokes : 81.0

Tolerance

cm3/1000 str. +-:1.5

Spread

cm3/1000 strokes :

Check tolerance

cm3/1000s. 4.5

Shutoff solenoid

Volt 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 70.5

Tolerance

cm3/1000 str. + :3.5

Shutoff solenoid

24 Volt

Check tolerance

cm3/1000s.4.5

IDLE SETTING

Rated speed rpm : 425

Del. quantity	
	† Check
cm3/1000 strokes : 12.0	† tolerance mm ++: 0.7
Tolerance	+ Shutoff solenoid
cm3/1000 str. +-: 4.0	+ Volt : 24
Shutoff solenoid	+
Volt : 24	SUPPLY PUMP PRESSURE CHARACTERISTIC
Spread	+
cm3/1000 strokes : 5.5	+ Rated speed rpm : 1050
Check tolerance	+ Aneroid pressure
cm3/1000s. : 7.0	+ hPa : 1000
. , , , ,	+ Supply pomp
	pressure bar : 6.6
	+ Tolerance bar +: 0.3
	+ Shutoff solenoid
FULL-LOAD SPEED REGULATION	Volt : 24
TOLE LOND OF ELD REGULATION	7 1000
Rated speed rpm : 1145	Rated speed rpm : 750
Pressure hPa : 1000	Aneroid pressure
Del. quantity cm3/1000 strokes : 58.0	1
	+ Supply pomp
Tolerance 5.0	pressure bar : 5.3
cm3/1000 str. + : 5.0	+ Tolerance bar +: 0.3
Shutoff solenoid	+ Shutoff solenoid
Volt : 24	+ Volt : 24
	†
STARTING FUEL DELIVERY	+ Rated speed rom : 500
	Aneroid pressure
Rated speed rpm : 100	+ hPa : 1000
Del. quantity	+ Supply pomp
cm3/1000 strokes : 100.0	+ pressure bar : 4.2
Tolerance	+ Tolerance bar +-: 0.3
cm3/1 600 str. → : 40.0	+ Shutoff solenoid
Shutoff solenoid	+ Volt : 24
Volt : 24	+
	+ OVERFLOW QUANTITY
	1
	†
	Rated speed rpm : 500
	+ Overflow quantity
	+ Overflow quantity + ccm/10s : 62.5
INJECTION-PUMP TEST SPECIFICATIONS	+ Overflow quantity + ccm/10s : 62.5 + Tolerance
	+ Overflow quantity + ccm/10s : 62.5
INJECTION-PUMP TEST SPECIFICATIONS TIMING DEVICE CHARACTERISTIC	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8
TIMING DEVICE CHARACTERISTIC	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8 Shutoff solenoid
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s +-: 20.8 Check tolerance ccm/10s +-: 20.8
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s +: 20.8 Check tolerance ccm/10s +: 20.8 Shutoff solenoid Volt : 24
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm + : 0.5	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm + : 0.5 Check	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm + : 0.5 Check tolerance mm + : 0.7	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Shutoff solenoid	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm + : 0.5 Check tolerance mm + : 0.7	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Shutoff solenoid	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Aneroid pressure	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6 Check tolerance
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 500	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Aneroid pressure	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6 Check tolerance
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Aneroid pressure	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Aneroid pressure hPa : 1000	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6 Shutoff solenoid

		1
DELIVERY AND BREAKAW	AY CHARACTERISTIC	Rated speed rpm : 750 Aneroid pressure
Rated speed rpm : Aneroid pressure	1145	hPa : 1000 Del. quantity
hPa : Del. quantity	1000	cm3/1000 strokes : 81.0 Tolerance
cm3/1000 strokes : Tolerance	58.0	cm3/1000 str. +: 1.5 Check tolerance
cm3/1000 str. +-: Check tolerance	5.0	cm3/1000s. +: 3.0 Shutoff solenoid
cm3/1000s. +-: Shutoff solenoid	6.0	Volt : 24
Volt :	24	MECHANICAL SHUTOFF
Rated speed rpm : Aneroid pressure	1120	Rated speed rpm : 1050
hPa :	1000	+ Aneroid pressure
Del. quantity cm3/1000 strokes :	35.0	+ hPa : 1000 + Del. quantity
Check tolerance cm3/1000s. +:	20.0	cm3/1000 strokes : 1.5 Tolerance
Shutoff solenoid	24	+ cm3/1000 str. +-: 1.5
Volt :		+ Check tolerance + cm3/1000s. + : 1.5
Rated speed rpm : Aneroid pressure	1200	+ Shutoff solenoid + Volt : 24
hPa : Del. quantity	1000	
cm3/1000 strokes : Tolerance	1.5	+ ELECTR. SHUTOFF + CONTROL LEVER, IDLE STOP
cm3/1000 str. + : Check tolerance	1.5	Rated speed rpm : 425
cm3/1000s. +-: Shutoff solenoid	1.5	Del. quantity - cm3/1000 strokes : 1.5
Volt :	24	Tolerance + cm3/1000 str. +: 1.5
Rated speed rpm :	700	- Check tolerance
Aneroid pressure hPa :	430	+ cm3/1000s. +-: 1.5
Del. quantity cm3/1000 strokes :	77.5	IDLE DELIVERY
Tolerance cm3/1000 str. +-: Check tolerance	3.0	Rated speed rpm : 475 Del. quantity
cm3/1000s. +-: Shutoff solenoid	4.0	cm3/1000 strokes : 2.0
Volt :	24	cm3/1000 str. + : 2.0 Check tolerance
Rated speed rpm : Aneroid pressure	1100	- cm3/1000s. + : 2.0 - Shutoff solenoid
hPa : Del. quantity	1000	Volt : 24
cm3/1000 strokes : Tolerance	73.0	<u>†</u>
cm3/1000 str. +-: Check tolerance	2.5	<u>†</u>
cm3/1000s. +: Shutoff solenoid	1.5	START TRANSITION
Volt :	24	TOTAL TRANSPILLOR

Rated speed rpm : 230

Del. quantity

cm3/1000 strokes : 40.0

Tolerance

cm3/1000 str. +: 20.0

Shutoff solenoid

Volt 24

Rated speed rpm : 130

Del. quantity cm3/1000 strokes : 100.0

Tolerance

cm3/1000 str. +-: 40.0

Shutoff solenoid

24 Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm : 5,2 Tolerance mm ←: 0,2 Dimension MS mm : 1,2 Tolerance mm + : 0,2 SVS dimension mm : 2,5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 16.08.96 Edition Test oil : ISO 4113

: 3 283 378 Part no.

Pump designation: VE4/12F1150R389-2B

Customer-spec, information

: CDC Customer

Motor : 4 BT- 390 AUTOM.

TEST BENCH REQUIREMENTS

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar +-:

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 Tolerance bar +-:

: 1 680 750 000 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 x Length mm 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,55

Tolerance mm \leftarrow : 0,02(0,06)

Outlet : A

Prestroke

(as of UT) mm : 0,3 Tolerance mm **←** : 0,02

Check

tolerance mm +-: 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

750 Rated speed rpm :

Aneroid pressure

1000

Setting mm 3.6 Tolerance mm + : 0.2 Shutoff solenoid

Volt

12

SUPPLY PUMP PRESSURE

900 Rated speed rpm :

Aneroid pressure

1000

Shutoff sclencid

12 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

1100 Rated speed rpm :

Aneroid pressure

hPa 1000

Del. quantity

cm3/1000 strokes : 67.5

Tolerance

cm3/1000 str. ←: 0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s.4.5

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 48.0

Tolerance

cm3/1000 str. \leftarrow : 0.5

Shutoff solenoid

12

Check tolerance

cm3/1000s.4.5

IDLE SETTING

360 Rated speed rpm :

Del. quantity		† Check
cm3/1000 strokes	: 17.0	† tolerance mm +-: 0.7
Tolerance		+ Shutoff solenoid
cm3/1000 str. +	: 3.0	→ Volt : 12
Shutoff solenoid		+
Volt	: 12	→ SUPPLY PUMP PRESSURE CHARACTERISTIC
Spread		
cm3/1000 strokes	: 5.5	Rated speed rpm : 1050
Check tolerance		+ Aneroid pressure
cm3/1000s.	: 7.0	+ hPa : 1000
,		+ Supply pomp
		+ pressure bar : 6.6
		+ Tolerance bar + : 0.3
		+ Shutoff solenoid
FULL-LOAD SPEED RI	ECUI ATTON	
FULL-LUAU SPEED R	EGOLATION	† Volt : 12
Detail aread man	. 1150	Detail aread area
Rated speed rpm	: 1150 : 1000	+ Rated speed rpm : 750
Pressure hPa	: 1000	+ Aneroid pressure
Del. quantity	. 57.0	+ hPa : 1000
cm3/1000 strokes	: 57.0	+ Supply pomp
Tolerance		+ pressure bar : 5.3
cm3/1000 str. +-	: 3.0	† Tolerance bar + : 0.3
Shutoff solenoid		+ Shutoff solenoid
Volt	: 12	† Volt : 12
		+
STARTING FUEL DEL	IVERY	+ Rated speed rpm : 500
		+ Aneroid pressure
Rated speed rpm	: 100	+ hPa : 1000
Del. quantity		+ Supply pomp
cm3/1000 strokes	: 100.0	pressure bar : 4.2
Tolerance		+ Tolerance bar +-: 0.3
ca3/1000 str. +	: 40.0	+ Shutoff solenoid
Shutoff solenoid		+ Volt : 12
Volt	: 12	1
		+ OVERFLOW QUANTITY
		Rated speed rpm : 500
		+ Cverflow quantity
		- + ccm/10s : 62.5
INJECTION-PUMP TES	ST SPECIFICATIONS	+ Tolerance
110201201110111111111111111111111111111	0. 601. 20.1. 20.10	+ ccm/10s + : 20.8
TIMING DEVICE CHAP	RACTERISTIC	1 20.0
POLICIA APITAR ALIU		Check tolerance
Rated speed rpm	: 1050	+ ccm/10s +: 20.8
Aneroid pressure	. 1030	+ Shutoff solenoid
hPa	: 1000	+ Volt : 12
iir 3	. 1000	
SV travel mm	: 5.1	DELIVERY AND BREAKAWAY CHARACTERISTIC
Tolerance mm +	: 0.4	T DELIVERY AND DREAKAWAY CHARACTERISTIC
Check	. 0.4	Rated speed rpm : 1150
tolerance mm +-	: 0.7	+ Rated speed rpm : 1150 + Aneroid pressure
Shutoff solenoid	. 0.1	+ hPa : 1000
	: 12	
Volt	: 12	Del. quantity
Dahad amard was	. 500	+ cm3/1000 strokes : 57.0
Rated speed rpm	: 500	+ Tolerance
Aneroid pressure	. 4000	+ cm3/1000 str. +: 3.0
hPa	: 1000	+ Check tolerance
·	^ 4	+ cm3/1000s. + : 6.0
SV travel mm	: 2.1	+ Shutoff solenoid
Tolerance mm +	: 0.4	+ Volt : 12

Dated speed sur	4430	+ Shutoff solenoid
Rated speed rpm :	1120	† Volt : 12
Aneroid pressure	4000	†
hPa	1000	
Del. quantity	 -	+ ELECTR. SHUTOFF
cm3/1000 strokes :	35.0	+ CONTROL LEVER, IDLE STOP
Check tolerance	22.2	†
cm3/1000s. +-:	20.0	+ Rated speed rpm : 360
Shutoff solenoid	4.0	+ Del. quantity
Volt :	12	+ cm3/1000 strokes : 1.5
6 A A 	4200	Tolerance
Rated speed rpm :	1200	+ cm3/1000 str. +-: 1.5
Aneroid pressure	4000	+ Check tolerance
hPa :	1000	+ cm3/1000S. + : 1.5
Del. quantity	4.5	†
cm3/1000 strokes :	1.5	†
Tolerance	4.5	† IDLE DELIVERY
cm3/1000 str. + :	1.5	† n
Check tolerance	4 5	+ Rated speed rpm : 420
cm3/1000s. +:	1.5	+ Del. quantity
Shutoff solenoid	12	+ cm3/1000 strokes : 2.0
Volt :	12	+ Tolerance
Dated aread	500	+ cm3/1000 str. + : 2.0
Rated speed rpm :	500	Check tolerance
Aneroid pressure	745	+ cm3/1000s. + : 2.0
	365	+ Shutoff solenoid
Del. quantity cm3/1000 strokes :	63.0	+ Volt : 12
Tolerance	3. 0	T
cm3/1000 str. +-:	0.5	Ī
Check tolerance	0. <i>3</i>	I
cm3/1000s. +-:	4.0	I
Shutoff solenoid	4.0	I
Volt :	12	START TRANSITION
	12	T START TRANSPITOR
Rated speed rpm :	1100	Rated speed rpm : 230
Aneroid pressure	7100	+ Del. quantity
hPa :	1000	cm3/1000 strokes : 40.0
Del. quantity	1000	+ Tolerance
cm3/1000 strokes :	67.5	+ cm3/1000 str. + : 20.0
Tolerance	0 , .5	+ Shutoff solenoid
cm3/1000 str. +-:	0.5	+ Volt : 12
Check tolerance		1
cm3/1000s. +:	3.0	1
Shutoff solenoid		Rated speed rpm : 130
Volt :	12	+ Del. quantity
	· -	+ cm3/1000 strokes : 100.0
		+ Tolerance
MECHANICAL SHUTOFF		+ cm3/1000 str. $+$: 40.0
		+ Shutoff solenoid
Rated speed rpm :	1150	+ Volt : 12
Aneroid pressure		+
hPa :	1000	
Del. quantity		ASSEMBLY AND ADJUSTMENT DIMENSIONS
cm3/1000 strokes :	1.5	+
Tolerance		+ Dimension KF mm : 5,2
cm3/1000 str. +-:	1.5	+ Tolerance mm +-: 0,2
Check tolerance		† Dimension MS mm : 1,2
cm3/1000s. +-:	1.5	+ Tolerance mm + : 0,2
		+ SVS dimension mm : 2,5

CONTROL LEVER POSITION SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 42,3..47,8

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 16.08.96 Edition Test oil : ISO 4113

Part no. : 3 282 734

Pump designation : VE4/12F1100R389-20

Customer-spec. information

Customer : CDC

: 4 BT- 390 AUTOM. Motor

TEST BENCH REQUIREMENTS

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar + :

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

Tolerance bar +-:

Test lines : 1 680 750 000

Curside diameter : 6.00

x inside diameter : 2.00 x length mm 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,55

Tolerance mm +: 0.02(0.06)

: A Outlet

Prestroke

(as of UT) mm Tolerance mm +-: 0,02

Check

tolerance mm + : 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

750 Rated speed rpm

Aneroid pressure

1000

5.3 Setting mm Tolerance mm + : 0.5

Shutoff solenoid

Volt 24

SUPPLY PUMP PRESSURE

Rated speed rpm 900

Aneroid pressure

hPa 1000

Shutoff solenoid

Volt 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 750

Aneroid pressure

1000

Del. quantity

cm3/1000 strokes : 81.0

Tolerance

cm3/1000 str. +: 1.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. 4.5

Shutoff solenoid

Volt 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 70.5

Tolerance

cm3/1000 str. + :3.5

Shutoff solenoid

24

Volt

Check tolerance

cm3/1000s.4.5

IDLE SETTING

Rated speed rpm : 425

	1
Del. quantity -	Check
cm3/1000 strokes : 12.0	tolerance mm +-: 0.7
Tolerance -	Shutoff solenoid
cm3/1000 str. + : 3.0	+ Volt : 24
Shutoff solenoid -	+
Volt : 24	SUPPLY PUMP PRESSURE CHARACTERISTIC
Spread	+
cm3/1000 strokes : 5.5	Rated speed rpm : 1050
Check tolerance	Aneroid pressure
cm3/1000s. : 7.0	hPa : 1000
	Supply pomp
	pressure bar : 6.6
	Tolerance bar + : 0.3
	Shutoff solenoid
FULL-LOAD SPEED REGULATION	Volt : 24
TOLE CONFORCES RESOURTED	1 .000
Rated speed rpm : 1145	Rated speed rpm : 750
Pressure hPa : 1000	Aneroid pressure
Del. quantity	hPa : 1000
cm3/1000 strokes : 58.0	Supply pomp
Tolerance	pressure bar : 5.3
cm3/1000 str. + : 5.0	Tolerance bar +-: 0.3
Shutoff solenoid	Shutoff solenoid
	+ Volt : 24
Volt : 24	+ volt : 24
CTANTIAN CHEL NELTHERY	Pated analysis 500
STARTING FUEL DELIVERY	Rated speed rpm : 500
Dated and dame	Aneroid pressure
Rated speed rpm : 100	hPa : 1000
Del. quantity	Supply pomp
cm3/1000 strokes : 100.0	pressure bar : 4.2
Tolerance	Tolerance bar + : 0.3
cm3/1000 str. + : 40.0	Shutoff solenoid
Shutoff solenoid	 Volt : 24
Volt : 24	t
•	OVERFLOW QUANTITY
•	+
	·
•	Rated speed rpm : 500
· ·	Overflow quantity
	Overflow quantity : 62.5
INJECTION—PUMP TEST SPECIFICATIONS	Overflow quantity ccm/10s : 62.5 Tolerance
•	Overflow quantity : 62.5
INJECTION—PUMP TEST SPECIFICATIONS TIMING DEVICE CHARACTERISTIC	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s +- : 20.8
TIMING DEVICE CHARACTERISTIC	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s +- : 20.8 Check tolerance
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s +-: 20.8 Check tolerance ccm/10s +-: 20.8
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s +-: 20.8 Check tolerance ccm/10s +-: 20.8 Shutoff solenoid
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s +-: 20.8 Check tolerance ccm/10s +-: 20.8
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s +-: 20.8 Check tolerance ccm/10s +-: 20.8 Shutoff solenoid Volt : 24
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm +-: 0.5	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s +-: 20.8 Check tolerance ccm/10s +-: 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm +-: 0.5 Check	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s +- : 20.8 Check tolerance ccm/10s +- : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm +-: 0.5 Check tolerance mm +-: 0.7	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s +- : 20.8 Check tolerance ccm/10s +- : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm +-: 0.5 Check tolerance mm +-: 0.7 Shutoff solenoid	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s +-: 20.8 Check tolerance ccm/10s +-: 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm +-: 0.5 Check tolerance mm +-: 0.7	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s +-: 20.8 Check tolerance ccm/10s +-: 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm +-: 0.5 Check tolerance mm +-: 0.7 Shutoff solenoid Volt : 24	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s +-: 20.8 Check tolerance ccm/10s +-: 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm +-: 0.5 Check tolerance mm +-: 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 500	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s +-: 20.8 Check tolerance ccm/10s +-: 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s +-: 41.6
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm +-: 0.5 Check tolerance mm +-: 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Aneroid pressure	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6 Check tolerance
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm +-: 0.5 Check tolerance mm +-: 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 500	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Aneroid pressure hPa : 1000	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s +-: 20.8 Check tolerance ccm/10s +-: 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s +-: 41.6 Check tolerance ccm/10s +-: 41.6 Shutoff solenoid
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Aneroid pressure hPa : 1000 SV travel mm : 2.1	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s + : 20.8 Check tolerance ccm/10s + : 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s + : 41.6 Check tolerance ccm/10s + : 41.6
TIMING DEVICE CHARACTERISTIC Rated speed rpm : 1050 Aneroid pressure hPa : 1000 SV travel mm : 6.6 Tolerance mm + : 0.5 Check tolerance mm + : 0.7 Shutoff solenoid Volt : 24 Rated speed rpm : 500 Aneroid pressure hPa : 1000	Overflow quantity ccm/10s : 62.5 Tolerance ccm/10s +-: 20.8 Check tolerance ccm/10s +-: 20.8 Shutoff solenoid Volt : 24 Rated speed rpm : 1100 Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s +-: 41.6 Check tolerance ccm/10s +-: 41.6 Shutoff solenoid

		1
DELIVERY AND BREAK	AWAY CHARACTERISTIC	Rated speed rpm : 750 Aneroid pressure
Rated speed rpm Aneroid pressure	: 1145	hPa : 1000 Del. quantity
hPa Del. quantity	: 1000	cm3/1000 strokes : 81.0
cm3/1000 strokes Tolerance	: 58.0	cm3/1000 str. +-: 1.5 Check tolerance
cm3/1000 str. +-	: 5.0	cm3/1000s. +-: 3.0 Shutoff solenoid
cm3/1000s. +- Shutoff solenoid	: 6.0	Volt : 24
Volt	: 24	MECHANICAL SHUTOFF
Rated speed rpm	: 1120	THE CHARTERE SHOTO!
Aneroid pressure		Rated speed rpm : 1050
hPa	: 1000	+ Aneroid pressure
Del. quantity		+ hPa : 1000
cm3/1000 strokes	: 35.0	- Del quantity
Check tolerance		+ cm3/1000 strokes : 1.5
cm3/1000s. +	: 20.0	+ Tolerance
Shutoff solenoid Volt	: 24	+ cm3/1000 str. +-: 1.5 + Check tolerance
VOCE	: 24	+ cm3/1000s. +-: 1.5
Rated speed rpm	: 1200	+ Shutoff solenoid
Aneroid pressure	. ,,,,,,,	+ Volt : 24
hPa	: 1000	1
Del. quantity		
cm3/1000 strokes	: 1.5	+ ELECTR. SHUTOFF
Tolerance		→ CONTROL LEVER, IDLE STOP
cm3/1000 str. +-	: 1.5	+
Check tolerance	A F	+ Rated speed rpm : 425
cm3/1000s. +-	: 1.5	+ Del. quantity
Shutoff solenoid Volt	: 24	+ cm3/1000 strokes : 1.5 + Tolerance
VOCE	. 24	+ cm3/1000 str. +: 1.5
Rated speed rpm	: 700	+ Check tolerance
Aneroid pressure		+ cm3/1000s. + : 1.5
hPa	: 430	+
Del. quantity		+
cm3/1000 strokes	: 77.5	† IDLE DELIVERY
Tolerance	. 70	t Dated aread area (3r
cm3/1000 str. +- Check tolerance	: 3.0	+ Rated speed rpm : 475 + Del. quantity
cm3/1000s. +-	: 4.0	+ cm3/1000 strokes : 2.0
Shutoff solenoid	. 7.0	+ Tolerance
Volt	: 24	+ cm3/1000 str. + : 2.0
		+ Check tolerance
Rated speed rpm	: 1100	+ cm3/1000s. $+$: 2.0
Aneroid pressure	4===	+ Shutoff solenoid
hPa	: 1000	+ Volt : 24
Del. quantity	. 73.0	†
cm3/1000 strokes Tolerance	: 73.0	Ī
cm3/1000 str. +-	: 2.5	I
Check tolerance	• • • •	1
cm3/1000s. +-	: 3.0	
Shutoff solenoid		+ START TRANSITION
	: 24	+

230 Rated speed rpm : Del. quantity cm3/1000 strokes : 40.0 Tolerance cm3/1000 str. + :20.0 Shutoff solenoid 24 Volt Rated speed rpm : 130 Del. quantity cm3/1000 strokes : 100.0

Tolerance cm3/1000 str. +-: 40.0

Shuroff solenoid Volt : 24

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm : 5,2
Tolerance mm + : 0,2
Dimension MS mm : 1,2
Tolerance mm + : 0,2
SVS dimension mm : 2,5

CONTROL LEVER POSITION SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 42,2..47,8

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 19.08.96

Test oil

: ISO 4113

Part no.

: 3 282 732

Pump designation: VE4/12F1050R389-2D

Customer-spec. information

Customer

: CDC

Motor

: 4 BT- 390 AUTOM.

TEST BENCH REQUIREMENTS

Overflow

restriction mm :

0.55

Inlet press. bar :

Tolerance bar + :

0.35

Test nozzle holde

assembly

: 1 688 901 027

Opening pressure

250

Tolerance bar + :

Test Lines

: 1 680 750 000

Outside diameter :

6.00

x inside diameter :

2.00

x length mm

840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,55

Toterance mm \leftarrow : 0,02(0,06)

Outlet

: A

Prestroke

(as of UT) mm : 0,3 +-: 0,02 Tolerance mm

Check

tolerance mm + : 0.04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 750

Aneroid pressure

hPa 1000

Setting mm 3.6 0.2 Tolerance mm Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

900 Rated speed rpm :

Aneroid pressure

1000

Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

750 Rated speed rpm :

Aneroid pressure

1000

Del. quantity

cm3/1000 strokes : 72.8

Tolerance

0.5 cm3/1000 str. +-:

Spread

cm3/1000 strokes :

Check tolerance

cm3/1000s.4.5

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 70.5

Tolerance

cm3/1000 str. +-:0.5

Shutoff solenoid

12

Check tolerance

4.5 cm3/1000s.

IDLE SETTING

375 Rated speed rpm :

Del. quantity	44.0	+ Check
cm3/1000 strokes	: 11.0	tolerance mm + : 0.7
Tolerance		† Shutoff solenoid
cm3/1000 str. +	: 3.0	† Volt : 12
Shutoff solenoid		†
Volt	: 12	+ SUPPLY PUMP PRESSURE CHARACTERISTIC
Spread		†
cm3/1000 strokes	: 5.5	+ Rated speed rpm : 1050
Check tolerance	7.0	+ Aneroid pressure
cm3/1000s.	: 7.0	† hPa : 1000
		+ Supply pomp
		pressure bar : 6.6
		† Tolerance bar + : 0.3
THE LOSS CORES ON	P. M. L. & P. T. M. L.	† Shutoff solenoid
FULL-LOAD SPEED RI	EGULATION	† Volt : 12
Dottod annual num	: 1145	Dated aread man
Rated speed rpm	· -	Rated speed rpm : 750
Pressure hPa	: 1000	Aneroid pressure
Del. quantity cm3/1000 strokes	: 58.0	+ hPa : 1000
Tolerance	: 56.0	Supply pomp
	: 3.0	+ pressure bar : 5.3
cm3/1000 str. +-	: 5.0	+ Tolerance bar +: 0.3
Shutoff solenoid	: 12	+ Shutoff solenoid + Volt : 12
Volt	. 12	† Volt : 12
STARTING FUEL DEL	ていたシマ	Rated speed rpm : 500
CHANTING FORE DEE.	1 4 7 1/ 1	+ Aneroid pressure
Rated speed rpm	: 100	+ hPa : 1000
Del. quantity	. 100	+ Supply pomp
cm3/1000 strokes	: 100.0	pressure bar : 4.2
Tolerance		+ Tolerance bar +: G.3
cm3/1000 str. +-	: 40.0	+ Shutoff solenoid
Shutoff solenoid	. , , , , , , , , , , , , , , , , , , ,	+ Volt : 12
Volt	: 12	+ 1000
		+ OVERFLOW QUANTITY
		}
		Rated speed rpm : 500
		<pre>+ Overflow quantity</pre>
		- + ccm/10s : 62.5
INJECTION-PUMP TE	ST SPECIFICATIONS	† Tolerance
		+ ccm/10s + : 20.8
TIMING DEVICE CHAP	RACTERISTIC	†
	4050	+ Check tolerance
Rated speed rpm	: 1050	+ ccm/10s + : 20.8
Aneroid pressure	4000	+ Shutoff solenoid
hPa	: 1000	† Volt : 12
Out Assessed the	. 54	T Dated around num . 1050
SV travel mm	5.1	+ Rated speed rpm : 1050
Tolerance mm +- Check	: 0.4	+ Aneroid pressure + hPa : 1000
	: 0.7	+ Overflow quantity
tolerance mm +- Shutoff solenoid	. 0.7	+ ccm/10s : 97.2
Volt	: 12	Tolerance : 97.2
VOLL	• 16	+ ccm/10s +-: 41.6
Rated speed rpm	: 500	1 . 41.0
Aneroid pressure	. 200	T Check tolerance
hPa	: 1000	+ ccm/10s + : 41.6
1)1 G		+ Shutoff solenoid
SV travel mm	: 2.1	+ Volt : 12
Tolerance mm +	: 0.4	+
		1

DELIVERY AND BREA	KAWAY CHARACTERIST		ed speed rpm :	900
ated speed rpm	: 1145	→ hPa		1000
reroid pressure Pa el. quantity	: 1000	+ cm3.	. quantity /1000 strokes : erance	83.5
m3/1000 strokes olerance	: 58.0	→ cm3.	/1000 str. +-: toff solenoid	4.0
m3/1000 str. +- heck tolerance	3.0	T Vol		12
m3/1000s. +-	: 6.0		ed speed rpm : roid pressure	750
/olt	: 12	+ hPa	: . quantity	1000
Rated speed rpm Aneroid pressure	: 1120	. + cm3.	/1000 strokes : erance	72.8
Pa el quantity	: 1000	+ cm3. + Che	/1000 str. ← : ck tolerance	
m3/1000 strokes heck tolerance		+ Shur	/1000s. + : toff solenoid	
m3/1000s. +-	. 53.0	† Vol	t :	12
olt	: 12	# MECI	HANICAL SHUTOFF	
ated speed rpm neroid pressure	: 1180		ed speed rpm :	10 50
Pa el. quantity	: 1000	+ hPa		1000
m3/1000 strokes olerence		+ cm3.	. quantity /1000 strokes :	1.5
m3/1000 str. +- heck tolerance m3/1000s. +-		+ cm3.	erance /1000 str. +-:	1.5
m3/1000s. +- hutoff solenoid o!t	: 12	+ cm3.	ck tolerance /1000s. +-: toff solenoid	1.5
ated speed rpm	: 700	+ Snut Vol		12
neroid pressure Pa	: 430	El FI	CTR. SHUTOFF	~~~~~~~~
el. quantity m3/1000 strokes		•	TROL LEVER, IDLE	STOP
olerance m3/1000 str. +-			ed speed rpm : . quantity	
heck tolerance m3/1000s. +-		+ cm3. + Tole	/1000 strokes : erance	
hutoff solenoid olt	: 12	+ Che	/1000 str. +- : ck tolerance	
ated speed rpm	: 1050	+ cm3.	/1000s. ←:	1.5
neroid pressure Pa	: 1000	‡ IDLI	E DELIVERY	
el. quantity m3/1000 strokes	: 78.0		ed speed rpm :	450
olerance m3/1000 str. +- heck tolerance	: 1.5	+ cm3/	. quantity /1000 strokes : erance	2.0
m3/1000s. + thutoff solenoid	: 3.0	+ cm3/	erance /1000 str. +- : ck tolerance	2.0
olt	: 12		/1000s. +-:	2.0

Shutoff solenoid

Volt

12

START TRANSITION

Rated speed rpm : 230

Del. quantity

cm3/1000 strokes : 40.0

Tolerance

cm3/1000 str. + : 20.0

Shutoff solenoid

Volt : 12

Rated speed rpm : 130

Del. quentity

cm3/1000 strokes : 100.0

Tolerance

 $cm3/1000 str. \leftarrow : 40.0$

Shutoff solenoid

Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm : 5,2

Tolerance mm ←: 0,2 Dimension MS mm : 1,2

Tolerance mm +: 0,2

SVS dimension mm : 2,5

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 42,2..47,8

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.08.96 Edition Test oil : ISO 4113

Part no. : 3 917 517

Pump designation : VE4/12F1050R389-2E

Customer—spec. information

Customer

: CDC

: 4 BT- 390 AUTOM. Motor

TEST BENCH REQUIREMENTS

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar +-: 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

Toleranse bar +-:

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,55

Tolerance mm +: 0.02(0.06)

Outlet | : A

Prestroke

(as of UT) mm : 0,3 +-: 0,02 Tolerance mm

Check

tolerance mm +-: 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 750

Aneroid pressure

hPa 1000

Setting mm 3.6 Tolerance mm +: 0.2

Shutoff solenoid

Volt 24

SUPPLY PUMP PRESSURE

Rated speed rpm 900

Aneroid pressure

hPa 1000

Shutoff soleroid

Volt 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm • 1100

Aneroid pressure

hPa 1000 Del. quantity

cm3/1000 strokes : 72.8

Tolerance

cm3/1000 str. + :0.5

Spread

cm3/1000 strokes :

Check tolerance

cm3/1000s. 4.5

Shutoff soleroid

Volt 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500

Del. quantity

70.5

cm3/1000 strokes :

Tolerance

cm3/1000 str. + :0.5

Shutoff solenoid

Volt 24

Check tolerance

cm3/1000s.

4.5

IDLE SETTING

		,		
Del. quantity		+	Check	
cm3/1000 strokes :	11.0	+	tolerance mm +-:	0.7
Tolerance		+	Shutoff solenoid	
cm3/1000 str. +-:	3.0	+	Volt :	24
Shutoff solenoid		+		
Volt :	24	+	SUPPLY PUMP PRESSURE	CHARACTERISTIC
Spread		+		
cm3/1000 strokes :	5. 5	+	Rated speed rpm :	1050
Check tolerance		+	Aneroid pressure	
cm3/1000s. :	7.0	1	hPa :	1000
		1	Supply pomp	
		1	pressure bar :	6.6
		1	Tolerance bar +-:	0.3
		1	Shutoff solenoid	0.5
FULL-LOAD SPEED REGU	I ATTON		Volt :	24
TOLE COND OF ELD MEGO	EATION	\perp		£4
Rated speed rpm :	1145	1	Rated speed rpm :	750
Pressure hPa :	1000	T	Aneroid pressure	7 20
Del. quantity	1000	Ţ	hPa :	1000
cm3/1000 strokes :	58.0	T		1000
	36.0	Ť	Supply pomp	F 7
Tolerance	7.0	1	pressure bar :	5.3
cm3/1000 str. +:	3.0	†	Tolerance bar +:	0.3
Shutoff solenoid	21	†	Shutoff solenoid	
Volt :	24	+	Volt :	24
		†		500
STARTING FUEL DELIVE	RY	7	Rated speed rom :	500
		+	Aneroid pressure	
Rated speed rpm :	100	+	hPa :	1000
Del. quantity		+	Supply pomp	
cm3/1000 strokes :	100.0	+	pressure bar :	4.2
Tolerance		+	Tolerance bar +-:	0.3
cm3/1000 str. → :	40. 0	+	Shucoff solenoid	
Shutoff solenoid		+	Volt :	24
Volt :	24	+		
		+	OVERFLOW QUANTITY	
		+		
		+	Rated speed rpm :	50 0
		+	Overflow quantity	
		+	ccm/10s :	62.5
INJECTION-PUMP TEST	SPECIFICATIONS	+	Tolerance	
		+	ccm/10s + :	20.8
TIMING DEVICE CHARAC	TERISTIC	+		
		+	Check tolerance	
Rated speed rpm :	1050	+	ccm/10s + :	20.8
Aneroid pressure		+	Shutoff solenoid	
hPa :	1000	+	Volt :	24
		+		
SV travel mm :	5.1	+	Rated speed rpm :	1050
Tolerance mm +:	0.4	+	Aneroid pressure	
Check		+	hPa :	1000
tolerance mm +-:	0.7	+	Overflow quantity	
Shutoff solenoid		+	ccm/10s :	97.2
Volt :	24	+	Tolerance	· -
•	_	1	ccm/10s +:	41.6
Rated speed rpm :	500	1		
Aneroid pressure		1	Check tolerance	
hPa :	1000	1	ccm/10s +-:	41.6
•		1	Shutoff solenoid	· · • •
SV travel mm :	2.1	1	Volt :	24
Tolerance mm +:	0.4	1	•	⊆ -т
. Jeer ance and	5. T	,		

		1		
DELIVERY AND BREAKAW	AY CHARACTERISTIC	Rated spe		900
Rated speed rpm : Aneroid pressure	1145	hPa + Del. quar	:	1000
hPa : Del. quantity	1000		strokes :	83.5
cm3/1000 strokes : Tolerance	58.0		str. +-:	4.0
cm3/1000 str. +-: Check tolerance	3.0	Volt	:	24
cm3/1000s. +: Shutoff solenoid	6.0	Rated spe	eed rpm :	1100
Volt :	24	hPa Del. quar	:	1000
Rated speed rpm : Aneroid pressure	1120		strokes :	72.8
hPa : Del. quantity	1000		str. + :	0.5
cm3/1000 strokes :	35.0	cm3/1000:	s. +-:	3.0
cm3/1000s. +: Shutoff solenoid	20.0	Volt		24
Volt :	24	MECHANIC	AL SHUTOFF	
Rated speed rpm : Aneroid pressure	1180	Rated spe		1050
hPa : Del. quantity	1000	Aneroid		1000
cm3/1000 strokes : Tolerance	1.5	+ Del. quar	ntity strokes :	1.5
cm3/1000 str. +-: Check tolerance	1.5	+ Tolerance		1.5
cm3/1000s. +: Shutoff solenoid	1.5	Check to	lerance	1.5
Volt :	24	Shutoff :		24
Rated speed rpm : Aneroid pressure	500	1	·	
hPa : Del. quantity	430	ELECTR.	SHUTOFF LEVER, IDLE :	STOP
cm3/1000 strokes : Tolerance	77.5	Rated spe	·	375
cm3/1000 str. + : Check tolerance	0.5	+ Del. quar		1.5
cm3/1000s. +-: Shutoff solenoid	4.0	+ Tolerance		1.5
Volt :	24	Check to cm3/1000	lerance	1.5
Rated speed rpm : Aneroid pressure	1050	<u> </u>	-	
hPa : Del. quantity	1000	IDLE DEL	IVERY	
cm3/1000 strokes : Tolerance	78.0	Rated spe		450
cm3/1000 str. +-: Check tolerance	1.5		strokes :	2.0
cm3/1000s. +-: Shutoff solenoid	3.0		str. +:	2.0
Volt :	24	+ cm3/1000		2.0

Shutoff solenoid

Volt : 24

START TRANSITION

Rated speed rpm : 230

Del. quantity

cm3/1000 strokes : 40.0

Tolerance

cm3/1000 str. + : 20.0

Shutoff solenoid

Volt : 24

Rated speed rpm : 130

Del. quantity

cm3/1000 strokes : 100.0

Tolerance

cm3/1000 str. +-: 40.0

Shutoff solenoid

Volt : 24

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm : 5,2
Tolerance mm + : 0,2
Dimension MS mm : 1,2
Tolerance mm + : 0,2
SVS dimension mm : 2,5

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 41,3..47,8